



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

ELEMENTARY TREATISE
ON
TACTICS.





600080639W



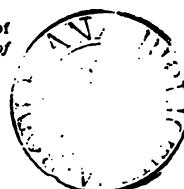


ELEMENTARY TREATISE
ON
TACTICS
AND
ON CERTAIN PARTS OF STRATEGY.

BY
EDWARD YATES, B.A.

NINETEENTH WRANGLER; SCHOLAR OF ST. JOHN'S COLLEGE, CAMBRIDGE;
AUTHOR OF AN ELEMENTARY TREATISE ON STRATEGY.

"Fear is nothing else than a wilful Neglecting and Betraying of
the Succours which Reason offereth."—*Wisdom of Solomon, Son of
David, King of Israel*, c. xvii. v. 12.



LONDON :
PARKER, FURNIVALL & PARKER,
Military Library, Whitbull.
1853.
Price Five Shillings.

257. C. 53.

LONDON :
R. CLAY, PRINTER, BREAD STREET HILL.

~~Onions~~ is a plant of onions

~~Onions~~ is a plant of onions

WELL -

~~Dear Sir~~ -

Dear Sir,
I am sorry to have to
inform you that I am unable to
attend the meeting of the
Society of the State of New York
on the 1st of October at the
Hotel Metropole in New York City.
I am sorry to have to do this
but I have been invited to speak
at a meeting of the New York
Society of the State of New York
on the 1st of October at the
Hotel Metropole in New York City.

Very truly yours,
John D. C. -

John D. C. -

V. L. -

LONDON:
R. CLAY, PRINTER, BREAD STREET HILL.

OPINIONS on an ELEMENTARY TREATISE on TACTICS and
on certain parts of STRATEGY, for the use of Military
Students. By EDWARD YATES, B.A.

OPINION I.

*Extracts from a Letter of GENERAL SIR WILLIAM F. P. NAPIER,
K.C.B., to the Author, placed at the Author's disposal.*

SCINDE HOUSE, CLAPHAM, NEAR LONDON,
October, 1853.

DEAR SIR,

PRAY accept my thanks for your Treatise. I have glanced through it, and read enough to see that it is a very beautiful little work, the result of great research and reflection; and it astonishes me that a civilian should have seized all military points with so much certainty, and avoided so entirely all the false notions which are so often adopted, and throw ridicule on works treating of war, by unprofessional men, and often, indeed, by shallow professional men. Does your work sell? I do not ask this from impertinent curiosity. I wish to know if our officers have any tendency to study their profession; if they have, your treatise should be in request.

* * * * *

Accept, therefore, the present notice as my acknowledgment both of your kindness and ability to handle the subject you have chosen; and with it permit me to send you a copy of the Posthumous work of the man you have so highly and, I will say, so justly eulogized. Believe me, Sir, with great esteem,

Your obliged Servant,

EDWARD YATES, Esq.

W. NAPIER.

OPINION II.

*Copy of a Letter from PROFESSOR NARRIEN, F.R.S. to the Author,
placed at the Author's disposal.*

ROYAL MILITARY COLLEGE,
October 30, 1853.

MY DEAR SIR,

I BEG to return you my best thanks for the present of your valuable and interesting Treatise on Tactics. The perusal of it has afforded me much pleasure, for I consider that the *Principles* involve all the most important objects in military operations, and they are delivered in a way which permits them to be easily comprehended and applied. The illustrations from events in actual warfare are well chosen, and form a valuable body of information concerning the circumstances on which the issue of battles mainly depends.

I am much obliged by your kind inquiry concerning my health. I am but slowly recovering from an illness which has been very prevalent this season, and this circumstance, with the pressure of duty arising from our half-yearly examinations, has prevented me from answering your letter earlier.

I remain, my dear Sir,

Sincerely yours,

E. YATES, Esq.

JOHN NARRIEN.

OPINION III.

Copy of the Review of the Treatise which appeared in the UNITED SERVICE GAZETTE of November 12th, 1853.

THE clever Treatise on Strategy which issued from the pen of Mr. Yates some months ago, had prepared us in a great measure for something still more elaborate. It is unusual to find civilians, "nineteenth wranglers and scholars of St. John's College, Cambridge," devoting themselves to Military studies; but there is nothing to prevent their becoming great authorities, even though they had never "heard great ordnance in the field." Theories are accessible to the whole of the studious part of mankind, and the records of war supply practical illustrations as serviceable as personal experience of campaigns. Mr. Yates never, perhaps, *saw a shot fired*, but he has diligently read the details of battles

and manœuvres in the grandest theatres chosen by the genius of Napoleon, and distinguished by such actors as Wellington, Beresford, Soult, Charles the Twelfth, and Peter the Great. No need of such a voucher as a Peninsula medal if a man can ascertain in his closet on what principles battles were won and lost !

The peculiar merit of Mr. Yates's volume lies in the logical arrangement of his matter. Definitions are followed by examples; principles and maxims are illustrated by cases. He affirms in language clear and comprehensible, and seeks his elucidations in the most authentic histories. We may cite as a salient instance of his manner, the account given of the battle of Albuera. The story as told by Napier is offered as an illustration of seven tactical principles, and of the maxims as to the choice of a field of battle, and the determination of the decisive point of a field of battle. To officers anxious to master their profession, we heartily commend a volume characterised by so much painstaking, intelligence, and irresistible argument.

UNITED SERVICE GAZETTE.

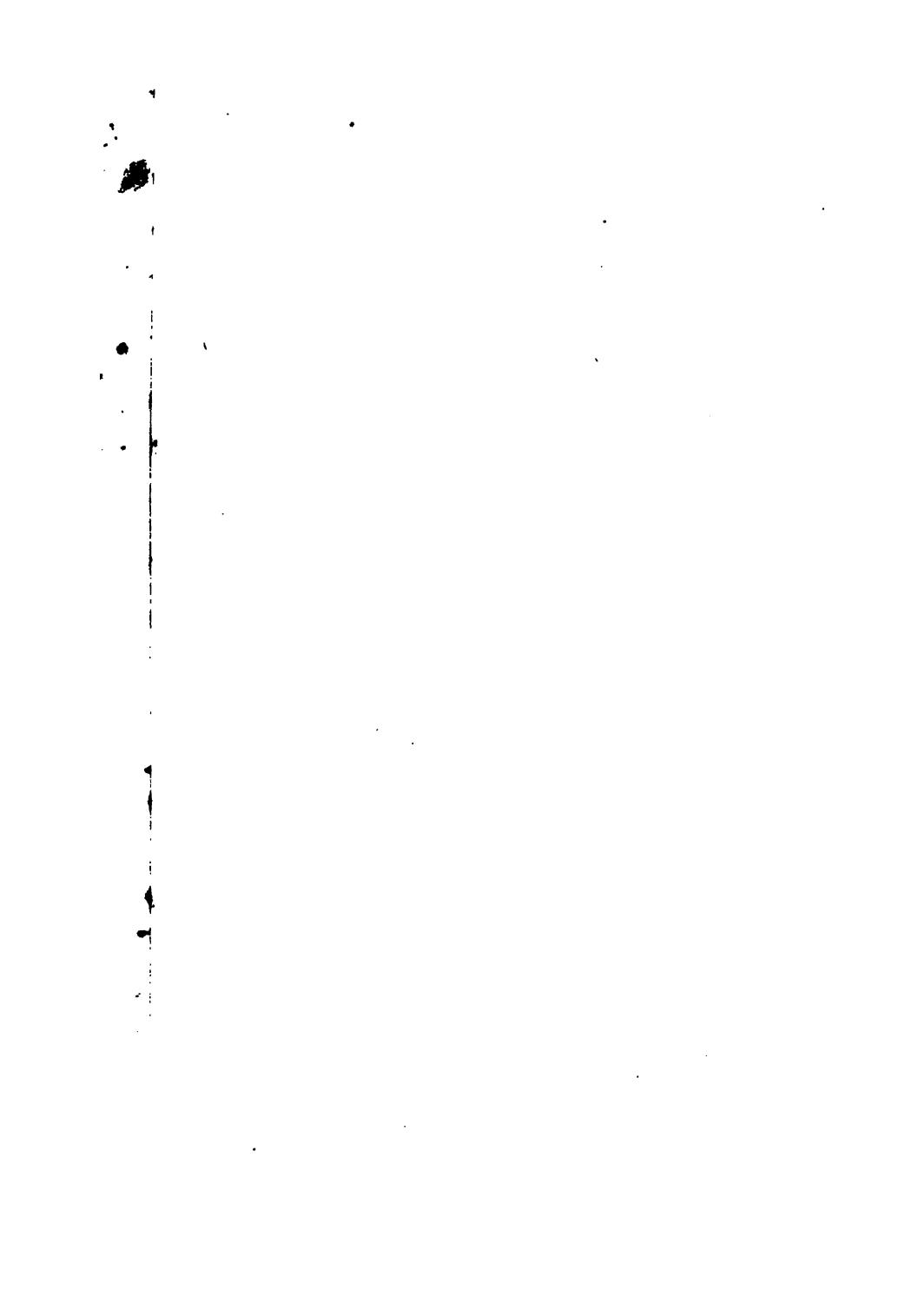
OPINION IV.

*Extracts from the Review of the Treatise which appeared in the
BRITISH ARMY DESPATCH of November 11th, 1853.*

WE are then introduced to a chapter on the principles and maxims of tactics, and on several maxims of war, subdivided into fifty-four principles of tactics, and fifteen maxims of war. The suggestions on the choice of a field of battle are based upon the experiences of the ablest commanders of ancient and modern times. The principles of fortifications generally are very clearly explained, and the chapter on the means of obtaining information, and of discovering the projects, plans, dispositions, and resources of the enemy, is an epitome of the experience of Napoleon, Wellington, and Jomini, as detailed in his useful work, *Précis de l'Art de la Guerre*.

We see no reason to withdraw from the author our meed of praise for a very useful work, deserving of careful perusal by Military men.

BRITISH ARMY DESPATCH.



Copy of a Letter from LIEUTENANT GENERAL SIR WILLIAM NAPIER, K.C.B. to the Author.—Printed by permission.

SCINDE HOUSE, CLAPHAM, NEAR LONDON,
June 2d, 1852.

SIR,

I HAVE received and read with great pleasure the work you have been so kind as to send to me. In conjunction with Lieutenant Jervis' Manual of Field Operations, it will, I hope and believe, turn the attention of young officers to the study of their profession in the highest branch, and it will enable them to understand military history, and separate trash from useful knowledge, by giving them a test of criticism. There are some points requiring observation, and, as I am exceedingly ill, I hope you will excuse me for touching on them briefly.

- 1°. The definition of a base of operations is too restricted.
A single seaport town may be a base of operations as well as a line of country.
- 2°. The same objection lies against the definition of decisive strategical points. A point may be seized which has none of the advantages of intersections of roads and junctions of rivers, and yet furnish the means of separating an enemy's forces, and compelling him to retreat or to accept battle disadvantageously. Perhaps you mean to include these by saying a small path may become more important than a great road.
- 3°. Your reader of proofs has treated you ill. Jomini is spelt throughout Jornini, &c. &c.

I must now finish with reiterating my warm approval of the work, which contains a very acute and able condensation of the leading principles of war; and I congratulate you on having the approval of Professor Narrien, whose theoretic opinions I hold as high as any man's; though there are things to be considered in war which nothing but practice can enable a man to comprehend and class.

I remain, Sir,

Your obliged Servant,

W. NAPIER.

EDWARD YATES, Esq.

*Copy of a Letter from PROFESSOR NARBIEN, F.R.S.
Printed by permission.*

ROYAL MILITARY COLLEGE,
May 14th, 1852.

SIR,

A PRESSURE of duty, caused by the recurrence of our half-yearly examinations, has put it out of my power at an earlier time to acknowledge the receipt of the "Elementary Treatise on Strategy," and I now beg leave to return you my best thanks for the honour conferred on me by the present of your valuable work. I congratulate you on having put the outlines of Strategy in an elementary form, which will render the science readily accessible to military students, who, from want of such a key, are too often deterred from cultivating the highest branch of their profession. The examples you have chosen are well adapted for illustrating the principles of Strategy, and you have put it in the power of a zealous officer to make advantageous applications of the principles, while perusing the military histories of the continental wars. I shall have pleasure in recommending the work to such officers at this place as manifest a taste for military combinations on a great scale,

And I remain, Sir,

Your most obedient Servant,

JOHN NARBIEN.

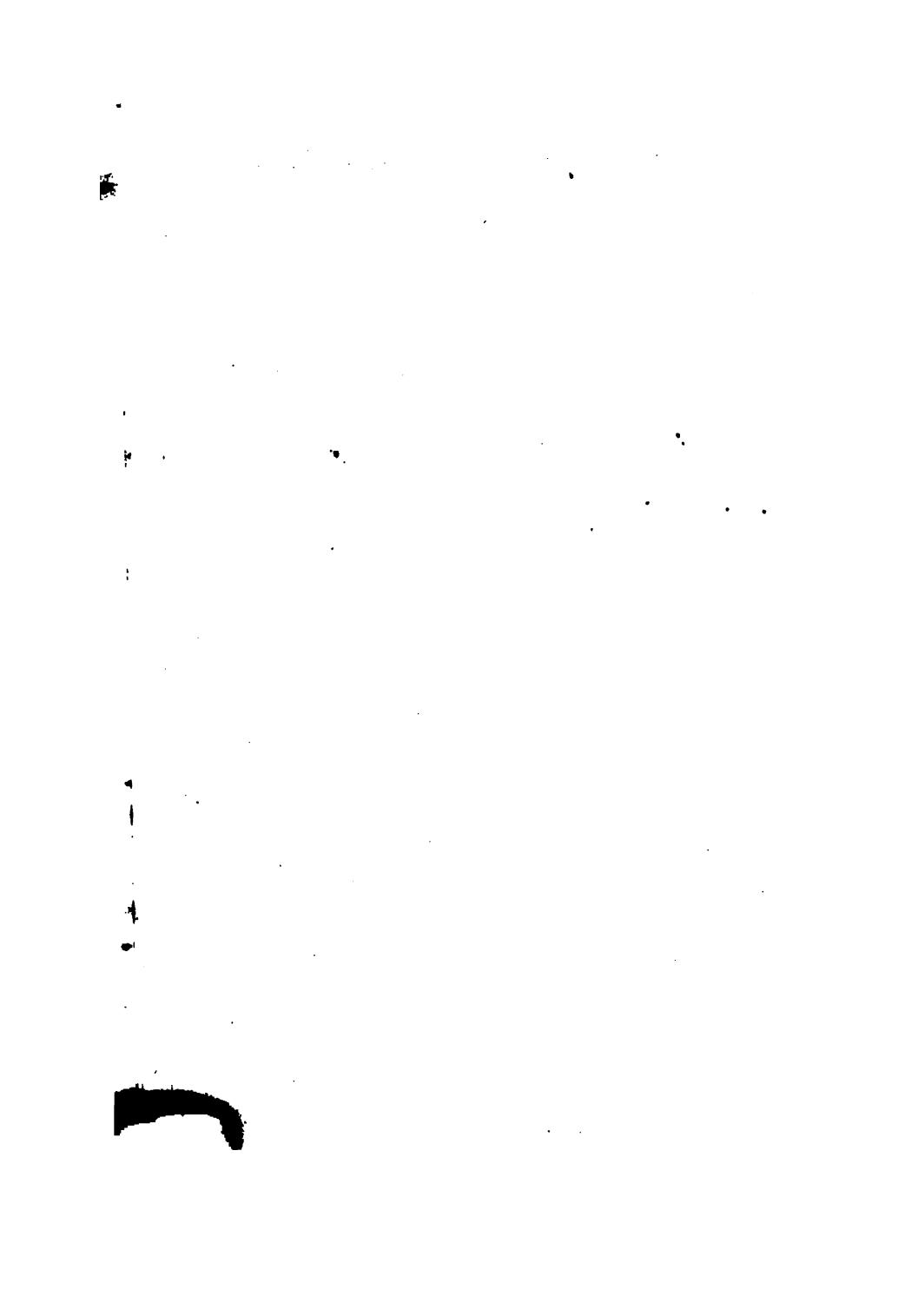
EDWARD YATES, ESQ.

The observations in Sir William Napier's letter seem to require attention in this place. The first observation is the statement of a plain fact. On referring, I was surprised to find the definition so restricted. A base of operations is defined to be a piece of ground, of any size whatever, from which an army may or does derive its supplies, and towards which it might retreat in case of disaster. Then the false definition given in the treatise may be taken as a description of the most general kind of base of operations. A portion of a promontory, separated from the main land by lines of fortifications, may, equally with a seaport town, form a base, and both are included in the definition now given. The seaport town of Konigsberg may be taken as an example; it formed the base of the Russian armies in the Friedland campaign.

The second observation gives a definition of a class of decisive points, and appears, in my humble judgment, very important as an addition to this part of the treatise. I think I may affirm that the two following sentences, which I quote from pages 6 and 5 of the treatise, point out the existence of this class of points, though with insufficient distinctness :—

“ A point is of a higher or lower order, according as the communications of which it gives possession are more or less important ; the importance of any communication depending not only on its magnitude, but on the relative positions of the armies.” “ It is also true that a point which, when considered only as a means to the possession of the communications, is of a low order, as a decisive point may, from the disposition of the opposing forces, have its importance increased, for a portion of a particular campaign, to equality with a point which is in general more decisive.”

Before concluding this paper, I will suggest the extraordinarily advantageous applications which might be made of the principle of operating as much as possible on the enemy's communications without exposing one's own, and the power of changing strategical lines which would be possessed by an army, which should possess fortresses radiated round the sea-coast of a peninsula or island, and whose navy, master of the sea, should possess sufficient steamers to remove supplies *ad libitum* from one fortress to another. Such a state of affairs would be no less favourable to the application of Principle I.



P R E F A C E.

THE Preface of a Treatise on Military Science should be concise. The Preface divides itself into two parts :—

1. The Scope of the treatise.
2. Reasons for writing it.

The Scope is briefly *and of necessity very imperfectly exhibited* in the Table of Contents placed after this Preface, and to it the reader is referred, it being premised that the object the Author proposed to himself was to write an Analytical Elementary Treatise on the Science of Tactics, and on certain parts of the Science of Strategy, on the model of the best treatises on the Mathematical Sciences. It is, therefore, hoped, that the treatise is characterised in a special degree by definiteness, conciseness, order, and comprehensiveness.

The necessary definitions are given, accompanied by examples, and it is hoped that every idea, principle, and thing, presented to the student in this treatise is perfectly clear and definite, because it is certain that the operations of a mind working with distinct, well-defined ideas and conceptions, are not only far less liable to error, but also much more rapid; in fact, a mind working with definite ideas, having before it the exact and perfect thing signified by every word used, possesses in rapidity and exactitude all

the advantages of a workman who, with tools which he sees, does in the light work on objects he sees, over one working in the dark, with tools and objects whose outlines are partially and imperfectly distinguishable. To no man is the power of definite and rapid thought so important, as to a soldier; a soldier should never think on any subject except with the utmost rapidity of which his mind is capable.

The reasons for writing are—

1. That no treatise at all resembling the present in scope and object exists in English.
2. That treatises similar to the present in scope and object do exist in other countries, especially in Russia, and are even written by order of the Governments.
3. That the general principles, maxims, and rules of war, and instructions for applying these to the data in the construction of combinations, have their application in the *least and greatest* operations of war, the movements of armies, the operations of a great battle, the attack and defence of a defile of all descriptions, the attack and defence of posts, &c. &c.
4. That an English military student wishing to obtain a knowledge of the definitions, principles, maxims, data, and method of constructing tactical combinations no less than strategical, by applying the principles and maxims to the data, will, at a vast and useless expense of time and labour, wander from treatise to treatise, article to article, and that without attaining his object.
5. That many of the articles and treatises which a military student will, in the endeavour to obtain a comprehensive knowledge of his Science, hunt out for himself, are

decidedly vicious and erroneous, all disorderly, without principles or comprehensiveness, and filled with particular points of detail brought incongruously together. For example, the Treatise on War in the "Encyclopædia Britannica" is eminent for complete and mischievous error, incongruous points of detail, and the probability of its falling into the hands of an inquiring military student.

6. That it may be very fairly doubted, if not confidently asserted, whether, without a knowledge of military history, a power of generalization, a knowledge of foreign languages, and *an amount of time and labour* which it would be in the very great majority of cases unreasonable to expect, a military student could acquire the information which, it is hoped, will be found simple, definite, condensed, and orderly, in the present treatise.

7. That comprehensive analytical treatises on the definitions, principles, maxims, leading operations, &c. of Tactics and Strategy are required *to prepare the way for and render advantageous* the reading of campaigns, which *without such previous preparation is comparatively, and in most cases actually, useless*.

8. That a want of the knowledge and recognition, as well as a cultivation of the power of applying correctly the principles of war to the construction of combinations, involves immense unnecessary expense, as well as what is more to be deplored, an unnecessary sacrifice of the lives of brave men.

9. That the Writer will be perfectly satisfied if he shall facilitate a single student who may earnestly desire to serve his country and humanity worthily to the best of his abilities, in acquiring the true principles of his science.

10. That the Writer having, in his Elementary Treatise on Strategy, left certain points untouched on which it appears expedient to treat in an Elementary Treatise on Strategy, and having treated some points with less fulness than appears expedient, is desirous to remedy those defects by means of the present treatise, by treating in it as well on Tactics as on those points in Strategy untouched on in his treatise on that subject, and by treating more fully on those points to which too little attention appears there to have been paid.

A BRIEF TABLE OF CONTENTS.

CHAPTER I.

ON DEFINITIONS.

	PAGE
1. Of Tactics	1
2. Tactical Lines	<i>ib.</i>
3. Tactical Theatre of War	2
4. Decisive Tactical Points	<i>ib.</i>
5. A Line of Battle	<i>ib.</i>
6. An Order of Battle	<i>ib.</i>
7. A Tactical Front	3
8. Tactical Pivots	<i>ib.</i>
9. Decisive Point of a Field of Battle	4
10. Interior Tactical Lines	5
11. Tactical Base of Manceuvres	<i>ib.</i>
12. Point of Concentration	6
13. A Position	<i>ib.</i>
14. Circle of Enemy's Activity	<i>ib.</i>
15. Of the terms <i>In Front</i> , <i>In Echarpe</i> , <i>In Flank</i> , <i>In Reverse</i> , <i>In Rear</i> .	<i>ib.</i>

CHAPTER II.

ON THE PRINCIPLES AND MAXIMS OF TACTICS, AND ON SEVERAL MAXIMS OF WAR.

Fifty-four Principles of Tactics	8
Fifteen Maxims of War	27

CHAPTER III.

ON THE CHOICE OF A FIELD OF BATTLE

31

CHAPTER IV.

	PAGE
ON THE DETERMINATION OF THE DECISIVE POINT OF A FIELD OF BATTLE	37

CHAPTER V.

ON THE EXPLANATION, ILLUSTRATION, AND EXEMPLIFICATION OF THE PRINCIPLES OF TACTICS, AND MAXIMS OF WAR, CONTAINING—	
1. An account of the Battle of Rivoli, with a Plan	51
2. An account of the Battle of Dresden, with a Plan	64
3. An account of the Battle of Albuera, with a Plan	82
4. An account of the Battle of Austerlitz, with a Plan	109
Also, Explanations of those of the Principles and Maxims which seem to require it, and Exemplifications from all times of Military History	131

CHAPTER VI.

ON THE PASSAGE OF A GREAT RIVER, WITH EXAMPLES AND A PLAN	170
---	-----

CHAPTER VII.

ON FORTIFICATION.

1. On the Principles of Fortification generally	185
2. On Têtes-de-Pont, with a Plan	190
3. On the cheapest System of Fortresses, and the best, considered with respect to Military, Naval, and Commercial advantages, for the Defence of an Island possessing a decided maritime superiority; and on the strategical advantages of the system	206

CHAPTER VIII.

ON THE MEANS OF OBTAINING INFORMATION, AND OF DISCOVERING THE PROJECTS, PLANS, DISPOSITIONS, AND RESOURCES OF THE ENEMY	222
--	-----

CHAPTER I.

ON DEFINITIONS.

THIS brief chapter is devoted to a few definitions, which it appears necessary should be placed together at the commencement of the treatise.

It being necessary that the definition of Strategy should be premised—

Def.—Strategy is that division of the science of war, which superintends the direction of all operations and the construction of all combinations, except during the intervals of action; the instant at which the opposing forces, of whatever magnitude, come in sight of one another, being, in all cases (whether the affair be a battle, attack of post, siege, or of whatever kind) the signal for strategy to leave its presidency, and the instant at which they lose sight of one another, that for its return.

Def. 1.—Tactics is that division of the science of war which presides over all military operations whenever strategy does not preside.

Def. 2.—The lines on which the divisions of an army manœuvre, after the armies come in sight of one another, are called Tactical Lines. In all the plans of battles attached to this treatise, the tactical lines, on which the armies moved from their first position to their second and again to their third, are represented by dotted lines, as is stated in the explanation of the plans, which explanation is placed immediately before the plans, must be attentively and had best be read here. In the accounts of the battles of Rivoli, Dresden, Albuera, and Austerlitz, which are given with plans in explanation, illustration, and exemplification of the Principles and Maxims, examples of tactical lines will be found. By turning to the Plan 3, which is the plan of the battle of Albuera, the reader may see the

tactical lines by which the French moved from their first position, painted light yellow, to their second position, painted dark yellow.

Def. 3.—The whole area of ground, which it is necessary to take into consideration at any time during a campaign in order to construct correctly a tactical combination, is called the Tactical Theatre of War.

Def. 4.—Those points whose possession conduces, in an especial degree, to the possession of the communications or roads in the tactical theatre of war, are called Decisive Tactical Points.

Example 1.—It will be seen by the account of the battle of Dresden, hereafter given, that, on that battle field, the village of Plauen was a decisive tactical point; because it was by passing through this village only, that the right and centre of the Russo-Austrians could bring succour and assistance to their left, from which they were separated by the precipitous ravine of Plauen.

Example 2.—It will also be seen from the account of the battle of Rivoli, that Osteria and the adjacent intrenchments was a decisive tactical point on that battle field.

Def. 5.—An army, infantry, cavalry, and artillery, arranged in any way whatever for the purpose of attacking or repelling an enemy, is defined to be a Line of Battle.

Obs.—Such an arrangement is called a *line* of battle, because it approaches more or less to a line.

Def. 6.—When a line of battle is so constructed as to present any marked particularity, such as being very concave or very convex towards the enemy, considerably stronger on the centre than on the wings, considerably stronger on one wing than on the centre and remaining wing, &c. &c., it is then said to be of an Order, the name of the order being derived from the particularity which the line possesses; thus we say, a concave order of battle, a convex order of battle, an oblique order of battle, &c.

Ex. 1.—The Russo-Austrian line of battle at Dresden, (see Plan 2) painted light yellow, was of the concave order.

Ex. 2.—The Russian line of battle at Friedland, on the Alle, was of the convex order.

Ex. 3.—Hannibal's line of battle at Cannæ was of the concave order.

Def. 7.—The Tactical Front of an army is defined to be the strip of ground along which an army is arranged, either continuously or at intervals, after the two armies come in sight of one another. Hence, the length of the Tactical Front is coincident with that of the line of battle after the line of battle is formed. The length is of course different for different battles, and the tactical manœuvres on tactical lines which precede them, and may vary considerably during the same battle and the tactical manœuvres on tactical lines which precede it. The depth is also different,—one mile may be given as an approximation after the line of battle is formed,—and this area of ground defined as the Tactical Front will then in general contain the whole army.

Ex.—In Plan 4 the positions of the French and Russo-Austrian armies on the evening of December 1st, the evening before Austerlitz, are marked in light red and light yellow respectively; and the positions of the same armies on the morrow, at the time the decisive shock took place between the centre and left of the French and the centre and right of the Russo-Austrians, are coloured respectively dark red and dark yellow. If, then, a line be drawn along the front of either of these four positions, the area of ground a mile deep lying behind this line, and bounded by another line parallel to it, will furnish an example of a tactical front. It will be seen from the plan, to which a scale is attached, that the light yellow Russo-Austrian front is about ten miles in length.

Def. 8.—A point in the field of battle which presents more than ordinary difficulty to the assailant, as any fortification whatever, a wood, a fortified farmhouse, an intrenched battery, a village, &c., is called a Tactical Pivot.

Obs.—The term pivot is derived from the following fact, that a line of battle, or a portion of a line of battle, has frequently moved backwards and forwards round one of these strong obstacles, as a line rotates about a fixed pivot, for example, as the hand of a clock round the pivot in the centre of the face.

Ex. 1.—The village of Castel Ceriolo, on the plains of Marengo, was a tactical pivot, supporting the right of the French, and was defended during the day against reiterated attacks; and around it, as about a pivot, the centre and left of the French advanced and receded alternately.

Ex. 2.—The powerful entrenched battery of 19 pieces, formed in a bastioned field-work open at the gorge, on the large hill or mamelon on the centre of the Russian line, at the battle of the Mosqua, may be taken as an example, and about this, as about a pivot, the left of the Russian line retrograded and advanced alternately, according as the flèches covering their left were taken and retaken, until the Prince of the Mosqua (Ney), having taken the large battery, and all the field works on the Russian left, and the village of Semenowskaja, the final French position was taken up.

Ex. 3.—The fortified house at Hougmont, on the field of Waterloo, was a tactical pivot.

Def. 9.—The Decisive Point of a field of battle is in all battles of one of four kinds, and it may be of either of these.

1. That part of the field of battle, *already occupied by and in the possession of the enemy*, of which it is *most expedient to force and take possession*, by directing to that object *the utmost combined efforts of which the whole army is capable*.

2. That part of the field of battle left unoccupied by the enemy, and not yet occupied by the army, on which it is *most expedient to seize*, in consequence of its possession when seized leading *inevitably to subsequent most advantageous offensive operations*.

3. That part of the field of battle left unoccupied by the enemy, and not yet occupied by the army, on which it is *most expedient to seize*, in order to the excellence of subsequent *defensive operations*.

4. That part of the field of battle already occupied by, and in the possession of the army, of which it is *most expedient to hold and keep possession*, by directing to that object the utmost united efforts of which the whole army is capable, in the case that the enemy attack.

A chapter is hereafter devoted to the subject of the deter-

mination of the decisive point of a field of battle. Examples will be found in the accounts of the battles of Rivoli, Dresden, Albuera, and Austerlitz.

The next definition is of great importance.

Def. 10.—Interior tactical lines are such tactical lines that the several portions of an army moving on them are more easily uniteable; so as to lend one another a mutual support for defending, or act unitedly and simultaneously in attacking, and be in amply superior numbers on any point which may be made the decisive point of the field of battle, than the portions of the enemy are on the lines on which he is moving.

Hence Interior Lines are defined relatively to those of the enemy. That which is required of tactical lines in order to be interior is, to use somewhat different words to those employed in the definition,—that they should allow the army moving on them to have a decisive numerical superiority, the configuration of the ground and relative value of the troops being taken into consideration, on any point which may become a point of collision.

Since Interior Tactical Lines are defined relatively to the tactical lines of the enemy, the lines of either army are interior or exterior according to the relation they bear to those of the other; and the same tactical lines may be interior or exterior according as the enemy chooses his own. Examples will be given of interior tactical lines in the accounts of the battles of Rivoli, Dresden, Albuera, and Austerlitz. The British tactical lines were manifestly inferior at Salamanca.

Def. 11.—A line of natural or artificial obstacles, presenting more than ordinary difficulties to an army attacking it, and greater advantages to one defending it, and employed in manœuvres, in which it plays an important part during the time that Tactics presides, is called a Tactical Base of Manœuvres.

Ex.—The portion of the large brook in the field of Austerlitz (see Plan 4), between Kobelnitz and Telnitz, with the two ponds of Kobelnitz and the tactical pivots along it, viz. the villages of Kobelnitz, Sokolnitz, and Telnitz, and the chateau and wood of Sokolnitz, and the ridge

of hills running along in rear of it, formed for the French a tactical base of manœuvres, of which Napoleon made a most brilliant use.

Def. 12.—When an army advances or retires from the several points on a strategical or tactical front occupied by its several separated portions towards the *same* point, each of the portions taking a different strategical or tactical line of its own leading to the point, such point is called a Point of Concentration.

Ex.—The fortress of Brunn was the French Point of Concentration before the battle of Austerlitz.

Def. 13.—The tactical front with the ground generally slopes on its front and on its flanks, is defined to be a Position.

Def. 14.—The whole area of ground in any point of which the information which has been obtained by one or other of the different means of obtaining information leads to the conclusion that the enemy may be able and ready to deal a blow, is defined to be the Circle of the Enemy's Activity.

It appears expedient, that before the Chapter of Definitions is closed, the strict meaning of the terms *in front*, *in écharpe*, *in reverse*, *in rear*, should be explained.

Let (Plan 6, fig. 1) *o* be the centre of a battalion *a b* deployed in line.

Through *o* draw the straight line *fr* perpendicular to *a b*, and also the straight lines *c d*, *e h* inclined at 45 degrees to *a b*.

Let the front of the battalion be towards the extremity *f* of *fr*, and the rear towards the other extremity *r*.

Then, when the enemy directs his attack on the front of the battalion in any direction more nearly inclined to *fr* than to *c d*, *e h*, or *a b*, i.e. within $22\frac{1}{2}$ degrees on either side of *fo*, the attack is said to be *in front*.

When the attack is on the front of the battalion, but more nearly inclined to *c d* or *e h* than to *a b* or *fr*, i.e. within $22\frac{1}{2}$ degrees on either side of *oc* or *oe*, the attack is said to be made *in écharpe*.

When the attack is more nearly inclined to *a b* than to either of the other lines, whether the attack be made on

the front or rear of the battalion, *i.e.* within $22\frac{1}{2}$ degrees on either side of $o\ a$ or $o\ b$, the attack is said to be made *in flank*.

When the attack is on the rear of the battalion, and more nearly inclined to either of the straight lines $h\ o$, $d\ o$ than to $a\ b$ or $f\ r$, *i.e.* within $22\frac{1}{2}$ degrees on either side of $o\ h$, $o\ d$, the attack is said to be made *in reverse*.

When the attack is on the rear of the battalion, and more nearly inclined to $o\ r$ than to either of the other lines, *i.e.* within $22\frac{1}{2}$ degrees on either side of $o\ r$, the attack is said to be made *in rear*.

The parallelogram $a\ b$ has been supposed to represent a battalion deployed in line; but it may with equal propriety be a battalion in column or in square, or a line of battle, or any portion of a line of battle formed in any way whatever. Nor is it necessary that the point o should be taken in the centre; for wherever o be taken, the directions of the lines remain the same; and it is with the directions alone that we are concerned in the matter; hence what has been said is perfectly general, and the exact meaning of the five terms *in front*, *in écharpe*, *in flank*, *in reverse*, and *in rear* explained.

The preceding definitions are all that it appears necessary to place together in the Chapter of Definitions. Others not exclusively tactical will, however, occur in the course of the treatise; and whenever any new name or expression is introduced which seems to call for a definition, one will be given, that obscurity and ambiguity may be replaced by distinctness, definiteness, and certainty.

CHAPTER II.

ON THE PRINCIPLES AND MAXIMS OF TACTICS, AND ON SEVERAL MAXIMS
OF WAR.

THE leading Principles and Maxims of Tactics will now be given together in a series. Each will afterwards receive what appears to be the necessary or expedient explanation, discussion, and illustration, by examples from Military History, in the order in which it stands in the series. The Principles and Maxims are thus all presented together, because, while discussing, and notably while presenting historical examples of *one* of the principles and maxims, *several others will of necessity* be illustrated and exemplified at the same time. It is hardly possible to select a portion which shall illustrate and exemplify one military principle or maxim only; and certainly it would be highly inexpedient, and contrary to the object in view to do so. Besides, by illustrating and exemplifying several principles and maxims by a single portion of military history, the treatise is shortened; and it will not be questioned by any true soldier that every man ought both to speak and write whatever he has to express in the fewest possible words. Other principles not included in this series, will be enunciated in the course of the treatise. They are not included in the series, because they are too intimately connected with the particular operation or portion of tactics to which they belong, to admit or require a separate discussion.

List of the Principles and Maxims of Tactics.

PRINCIPLE I.—Operate always on Interior Tactical Lines.

The following are 9 Particular Cases of this Principle:—

Particular Case 1.—Avoid allowing the columns, when

in the neighbourhood of the enemy, or when coming on to the field of battle,—in other words, when in the circle of the enemy's activity—to be separated by *insurmountable natural obstacles*, or by *obstacles so difficult to be surmounted as to allow the enemy time* to overwhelm with the mass of his forces, and destroy one column before the others can come to its assistance, or, worse still, to overwhelm with the mass of his forces several of the isolated columns successively.

Case 2.—Take care that the tactical front is not intersected by any natural obstacles running at right angles to or across the direction of its length; but that the tactical front is, on the contrary, furnished with excellent communications running along its length. And take care that, if possible, the contrary is the case with the enemy's tactical front.

Case 3.—Take the utmost care to ensure that the columns, when arriving on the field of battle in face of the enemy, shall arrive simultaneously.

Case 4.—Take care not to leave either so large a gap, or so large a very weak interval or intermediate portion of the line, that the enemy suddenly and vigorously attacking may enter at it, and so take each of the separated portions of the army in flank, which will enable him to engage both advantageously, and probably (which has often been the case) contain the one portion by a much smaller portion of his own army; which he is enabled to do, either because the tactical front he occupies with the containing portion of his army across the flank of the contained portion of the separated army is strong and good, or because a change of front in the presence of an enemy, and under fire, is an operation which requires time, and presents immense difficulty; while with the rest of his army he attacks the other separated portion in front and flank as vigorously as possible, and overwhelms it by the great superiority of numbers, which consideration will show he is thus enabled to bring on it.

Case 5.—When the army is moving in separated columns from the different points which its portions occupied on a strategical front, or on a tactical front, either in

advancing or in retiring, with a view to concentration at a point of concentration, take care that the point of concentration is out of the enemy's reach,—in other words, out of his circle of activity, so that he may not be able, by a rapid march, to anticipate the columns at the point of concentration, introduce the mass of his army between the separated columns, and so defeat them successively by great superiority of numbers.

Case 6.—Take care not to leave so large a gap in the line of battle that the enemy may be enabled, by attacking vigorously at, and entering the gap, to separate the army, throw the mass of his forces on, and overwhelm by great superiority of numbers the one portion of it, before the other—which he will contain and hinder, as far as possible, by a much smaller part of his army destined to that purpose—can find time to come to its assistance. And do not leave the gap, lest the enemy should profit by it, *in any other way whatever*, to act on interior lines.

Case 7.—Beware of separating the army into two parts, in hopes of turning an enemy's wing, as it leads to a large gap in the line.

Case 8.—If a wing of an army break the enemy's wing opposed to it, it must be borne in mind that the victorious wing of the army is not to pursue the opposing broken wing of the enemy too far, because it may, and frequently has happened, that the other wing of the enemy has also broken the other wing of the army opposed to it. For if the victorious wing of the army pursue the broken wing of the enemy too far, and the victorious wing of the enemy detaches a sufficiency to keep the broken wing of the army in retreat, or hold it in check for a sufficient time till the rest of the victorious wing of the enemy uniting with its centre shall have thus, by superiority of numbers, destroyed the centre of the army, then the victorious wing of the army which has pursued too far, may, on returning, find the field of battle in possession of the victorious enemy, and may in its turn be overwhelmed, or be glad to seek safety in flight. It is concluded, then, that the proper course for a wing of an army, which has defeated and broken the opposing wing of the enemy, is to detach

a sufficiency to keep the wing it has broken in retreat, or hold it in check for a sufficient time, till the rest of it, co-operating with the centre and remaining wing of the army, shall have defeated the centre and remaining wing of the enemy. To do this, is to act on interior lines; to act contrary to this is to violate the principle.

PRINCIPLE II.—Operate as much as possible on the communications of the enemy without exposing one's own, is one of the great principles of Strategy, and it is *equally* one of the great principles of Tactics.

Particular Case 1.—“When two armies are in the neighbourhood of one another, and a battle is at hand, if one of the armies be obliged to retire in *one* particular direction, while the other can retire in *all* directions, every advantage is on the side of the latter. Now is the time for a general to be bold. Let him operate and strike with vigour. Let him manœuvre on the flanks of his enemy till he finds his opening. Victory is in his hands.”—*Napoleon Bonaparte.*

Case 2.—Endeavour to seize beforehand (*i.e.* as soon as there is a reasonable probability that a certain field will become a field of battle,) the communications about and around the field of battle, that the army may be able to retreat in as many directions as possible under the circumstances, and the enemy may be curtailed as much as possible in the number of ways in which he can retreat. Or, taking the field of battle as a centre, and considering a circle drawn around this centre, endeavour so to seize the communications, in the tactical theatre of war about and around the field of battle, that the largest possible part of the circumference of this circle may be open to the army, so that it can retreat on any point of it, and the least part possible of the circumference similarly open to the enemy. And one principal way of doing this is to *seize, occupy, and fortify*, as far as possible, all the Decisive Tactical Points, such as fords, defiles, bridges, forts, or large stone buildings capable of being turned into forts, interfering with, commanding, or closing the communications, on the tactical bases of manœuvres which may lie adjacent to and around the field of battle.

Case 3.—This case applies equally to strategical and tactical operations, and is as follows:—

It is the height of folly not to take the greatest care in every respect of the line of operations one possesses, until another has become practicable. But to change the line of operations for a new one when this is practicable, in order “to operate as far as possible on the communications of the enemy without exposing one’s own,” is among the ablest and most decisive manœuvres of war.

Case 4.—Wherever there is a tactical base of manœuvres which projects into the tactical theatre of war, as, for instance, a base of manœuvres somewhat in the form of a straight line, and lying parallel to the tactical lines of the two armies, or approximately in the shape of a projecting angle, whose bisecting line is parallel or nearly so to the tactical lines of the two armies, it is an aim or object to seize such tactical base of manœuvres by seizing the decisive tactical points on it, *and having done this*, to operate as far as possible from that extremity of it which lies towards the enemy’s base of operations.

Case 5.—In giving battle, endeavour to fight so that the enemy shall be driven towards and on some great natural obstacle, as a river, a lake, a chain of mountains, a marsh, &c. in case he is defeated; for being driven on an obstacle he cannot pass by a superior and victorious force, and thus deprived of all communications by which to retreat, he will be entirely ruined; or, at least, immensely greater fruits may be expected from the victory than if the enemy had lines of retreat open. And, on the other hand, take care not to engage so as, in case of defeat, to be driven on such great natural obstacle.

PRINCIPLE III.—It is a great aim or object always to be held in view in all tactical manœuvres, *i. e.* in all manœuvres during the whole time tactics presides over the operations of war, (see Def. of Tactics,) to bring the Mass of the forces successively in contact with Fractions of the enemy, and that on ground as advantageous as possible. And similarly to bring larger fractions of the army into collision with smaller of the enemy.

This principle is the statement of a great aim or object

always to be held in view in all tactical manœuvrings; and as the principle is also a principle of Strategy, it is the statement of a great aim or object, always to be held in view in all the operations of war. Some problems and difficulties are far more difficult to state and prepare for solution, than to solve when a clear statement of the thing really required has been made out; and sometimes it is not much less difficult to know exactly what has really to be aimed at and effected than to effect this when clearly discovered. The solution of such problems, then, and difficulties is already, to a greater or less degree, advanced, when a clear statement of the real object really wanted has been made; and it is as a statement of this kind that the preceding principle is to be regarded. The principle will now be followed by particular cases of it, each of which is perhaps worthy of being itself dignified into a distinct principle of war. It is, however, more in accordance with scientific arrangement to treat a particular case, however important it may itself be, as a particular case.

Case 1.—Look out for an opportunity of catching the enemy, at a time when his columns are separated the one from the other by insurmountable natural obstacles, or by obstacles which are *sufficiently* insurmountable; so that by throwing the mass of the army on one of these isolated columns, it may be overwhelmed before the difficulty of passing the obstacles allows time for assistance to come to it. Look well out for the chance of thus catching the enemy with his columns so separated by sufficiently difficult obstacles, the one from the other; and if it should present itself, throw the mass of the army on as many of such isolated columns, the one after the other, as is possible. As soon as there is good reason to believe that the enemy has selected strategical lines or tactical lines, separated by obstacles of *sufficient* magnitude, make a forced march or marches to catch him in his fault.

Case 2.—Endeavour to induce the enemy by some means or other, (as, for example, by making an apparently bad disposition,) to think that by separating his columns

by *sufficiently* great obstacles he will gain some important advantage or hoped-for end. Seize the moment of successively overwhelming his columns while separated by the obstacles, if he falls into the trap and the opportunity presents itself.

Case 3.—If the enemy be found in order of battle on a tactical front intersected by any natural obstacles, as, for example, precipitous ravines, rivers, brooks, &c. running at right angles to or across the direction of its length, so that support cannot be brought from one part of the line to another part, or at least cannot be sufficiently quickly brought, profit by this to overwhelm one, or, if possible, several of the fractions of the enemy successively, with the mass of the army.

Case 4.—Endeavour by manœuvring to induce the enemy, by the fallacious hopes of an advantage, to come on to a tactical front intersected by natural objects, as in the last case; and if he comes, put the principle in force.

Case 5.—When in order of battle awaiting the coming of the enemy, if his columns do not come simultaneously or sufficiently so on to the field in presence, an opportunity presents of attacking one or more of the columns separately. Be on the look out for such opportunity of exploring the principle, and seize it.

Case 6.—Endeavour by manœuvring to induce the enemy to leave a large gap in his line, or a large and weak portion or interval of the line equivalent to a gap. Let, for example, the enemy, judging from previous manœuvres, think the army is wanting to retreat, and wishes to avoid fighting; then if the enemy separate his army, in order to prevent this retreat by cutting the army from its communications, he leaves a gap. Undue anxiety as well to turn a wing may induce the enemy to separate his army, and so leave a gap or weak interval. Whenever a large gap or such like weak interval presents this particular case of the principle, it teaches that the *mass of the army is to be thrown on one of the portions into which the enemy is thus divided*, while *the remainder of the army contains* the other portion, and hinders it, by profiting by obstacles of ground, by planting a very powerful battery

or batteries, &c. from coming to the assistance of the other portion till such time, at least, that the mass of the army shall have had time to break the portion on which it was thrown, after which it, or a large portion of it, will come to the assistance of the containing part, and the two together, forming the mass of the army, will now be thrown on the contained portion of the enemy in its turn.

Case 7.—When the enemy is found moving in separated columns, on several strategical or on several tactical lines, with a view, there is good reason to believe, of uniting his army at a certain convenient point of concentration, discover whether it is possible, by rapid marching, to anticipate him at this his point of concentration; and if so, this particular case orders, by rapid marching, to seize his point of concentration, get between the enemy's columns, and overthrow them successively with the army united. Such an opportunity is to be carefully watched for, in case it should come of itself; and watchfulness is also to be exercised as to whether it be not possible to prepare such an opportunity by previous manœuvres.

Case 8.—Watch, in case it should come of itself, and if not, endeavour, by manœuvres, to prepare an opportunity of catching the enemy at a time when he is in the act of crossing a large river, either when he is advancing or retreating, because in this case one portion of his army being on one side of the river, and the other portion on the other side, the mass of the army may be thrown on a portion of the enemy. Such opportunity might, for example, be prepared by a rapid march in advance, so as to come on the enemy suddenly without his expecting it, while he is crossing, or by retiring across a river as if in retreat, when, if the enemy pursue and commence crossing, by returning suddenly he is attacked while one portion of his army is still on the further side.

Case 9.—Lose no opportunity of defending a defile, by coming into a position on that extremity of the defile from which the enemy debouches, because by so doing the mass of the army has the option of attacking any portion whatever of the enemy which may be judged best, for the

remainder of the enemy will always be still in the defile or on the other side.

Case 10.—This case asserts that no exertion is to be spared to come up with a *retreating* enemy when he is just beginning to cross, or while in the act of crossing a large river, over which he has no *tête-de-pont*, or only an inefficient one, or when he is beginning to enter or in the act of passing a defile, because in these cases the mass of the army can be always more or less brilliantly engaged with a fraction of the enemy.

Case 11.—Endeavour to direct the army as much as possible on one flank, and on one wing only of the enemy, by putting the line of battle of the army into a position with respect to the line of battle of the enemy as nearly analogous as possible to that of the straight line *a*, fig. 4. Plan 6, to the straight line *b* (*b* being at right angles to *a*), for by so doing the mass of the forces will be brought continually into contact with a fraction of the enemy in the course of the most vigorous attack, which of course, if so favourable a position could be obtained for the army, ought to be made. The straight line *a*, representing the line of battle of the army, might, of course, be with advantage replaced by a portion of a circle with its concavity turned to *b*.

The five following principles may appear at first sight only particular cases of the preceding Principle III., but are, in reality, particular cases, *and something more*, and will, therefore, be given as separate principles.

PRINCIPLE IV.—It is a principle of Strategy, that if the enemy have a strategical front so extended as to afford one a reasonably certain expectation of being able to divide his forces into two parts, by directing the army on a point towards *the centre* of his strategical front, which two parts can afterwards be defeated separately, then this point towards *the centre of his front is the point of strategical attack*, and towards this point the mass of the army is to be directed; because the enemy, when divided into two parts, is placed on exterior strategical lines, unity of command is lost to him, or greatly impaired, and by thus attacking on a point towards *the centre of his front*, more fractions of the enemy

are manifestly likely to be brought into collision with the mass of the army, or with greater fractions of it. If, however, the enemy's strategical front is not so extended as to afford a reasonable expectation of being able to divide his forces into two parts, and defeat them separately, then to direct the attack on a point towards the centre might be only to give the signal for a greater concentration on his part; and for this and many other reasons, the principles of Strategy determine that the point of strategical attack is *towards one or other extremity* of the enemy's strategical front. And, similarly, it is no less a principle of Tactics, that if the enemy have a tactical front so extended as to offer one a reasonably certain expectation of being able to divide his forces, *more or less, if not entirely*, into two parts, by directing the mass of the army on a point towards the centre of his tactical front, so as to be able to defeat afterwards these two parts, *more or less, if not entirely, separately*, then this point *towards the centre of the front* is the point of tactical attack, and towards this point the mass of the army is to be directed; because the enemy when divided, *more or less, if not entirely*, into two parts, is placed on exterior tactical lines, unity of command is lost to him, or greatly impaired, and by thus attacking on a point *towards the centre* of his front, more fractions of the enemy are manifestly likely to be brought into collision with the mass of the army, or with greater fractions of it. If, however, the enemy's tactical front is not so extended as to afford a reasonable expectation of being able to divide his forces, *more or less, if not entirely*, into two parts, and, in consequence, defeat them afterwards, more or less, if not entirely, separately, then to direct the attack on a point towards the centre might only be to give the signal for greater concentration on his part, and for this and many other reasons, the point of tactical attack is *towards one or other extremity* of the enemy's tactical front.

V.—The object of all tactical manœuvres previous to, and on the day of, a great battle, until the decisive point of the field of battle is gained, is—the bringing on to the decisive point of the field of battle, and then putting into

rapid, vigorous, and well-combined action, such a mass of forces as shall be amply sufficient to obtain possession of the decisive point. And this *requisite numerical superiority* on the decisive point is only to be obtained by profiting by the obstacles and accidents of ground, and too extended or ill-combined movements of the enemy *to contain or hold in check for a sufficient time, on some part or parts of the tactical front, a much greater mass of the enemy's forces with a much less number of one's own, or by manœuvring so that a large portion of the enemy shall remain of necessity unengaged and idle, or very nearly so, until sufficient time has elapsed for the seizure of the decisive point, and destruction of the remaining portion.* And the second part of this principle of tactics is, that it is an aim or object in all tactical manœuvres to have on the field of battle such a mass of forces as shall be amply sufficient to win the battle; and this requisite numerical superiority is to be obtained by profiting by obstacles and accidents of the configuration of the country, and too extended or ill-combined movements of the enemy, to contain or hold in check, by means of obstacles and accidents of country or intervals of time, (for distance, without any obstacle, is an obstacle, and therefore an interval of time is an obstacle,) for a sufficient time on some part or parts of the tactical front, a much greater mass of the enemy's forces with a much less number of one's own.

VI.—The principles of tactics indicate, that when it is determined on overlapping and turning a wing of the enemy, or on attacking the wing in flank and in reverse, the operation is to be performed without separating the army in order to do it.—*Napoleon Bonaparte.*

VII.—Any considerable detachment from the main army sent previous to a battle beyond hearing of the artillery, for the purpose of advantageously cooperating with the main army during the battle, seldom fails to involve either itself or the main army, or both, in some disaster. Experience teaches the extreme danger and folly of such detachments for such objects.

VIII.—Before a battle every battalion, squadron, or battery which it is possible to bring up before the battle,

must be brought up before it ; and every battalion, squadron, or battery which may possibly arrive during the battle, must be sent for. The presence of a single battalion, squadron, or battery, may decide the fate of the day.

IX.—A battle ought never to be fought while there is good reason to believe that delay will render the chances still greater in one's favour; and a battle ought to be fought as soon as practicable when there is good reason to believe that time, with the advantages and disadvantages it is bringing, is on the whole augmenting the enemy's chances, and that it will continue to do so.

X.—It is an aim or object in all strategical, as well as in all tactical manœuvres, to induce or compel the enemy to attack *a fortified or intrenched position*, as well as any *fortress* or fortification, permanent or the contrary, and any natural obstacle whatever, which is of the nature of a fortification.

XI.—It is an aim or object in all strategical, as well as in all tactical manœuvres, to induce or compel the enemy to make detachments.

XII.—Before engaging and attacking, determine *well and surely* which is the decisive point of the field of battle, and give to this *the utmost and most earnest consideration*, without, as far as circumstances which may forbid, and time which may press, allow, leaving anything to conjecture which can possibly be ascertained with certainty, even though the probabilities should appear exceedingly favourable to the conjecture which may have been formed.

Obs.—A short chapter is hereafter devoted to the determination of the decisive point of the field of battle. The preceding principle only indicates the necessity of consideration and caution in correctly determining the decisive point.

XIII.—There is in all battles *a moment* when every weapon, every man, every combination of force that can be brought to bear, is to be brought into full and rapid action, in order to obtain and ensure the victory. The spot on which the grand struggle takes place is of course the

decisive point of the field of battle, the correct determination of which is all-important; and after it, the correct determination of *the moment most advantageous for making the grand struggle to obtain possession of the decisive point* is a most important consideration in the conduct of a battle, and this moment may be called the Decisive Moment.

XIV.—When the decisive point of the field of battle has been decided on “well and surely,” in accordance with Principle XII., and the requisite numerical superiority has been obtained by exploring the means to this end stated in Principle V. and the decisive moment has arrived, the attack itself on the decisive point must be made with *the utmost audacity, vigour, and rapidity*.

XV.—Simplicity is the parent of order, rapidity, and vigour in the execution of every tactical plan or combination, and in every tactical evolution whatever. Simplicity in the arrangement of the details is a great essential of every tactical offensive or defensive combination. *Simplicity is the soul of every tactical evolution.* The absence of simplicity in tactical evolutions, and in the details of tactical plans and combinations is the absence of order, vigour, and rapidity, and the presence of disorder, feebleness, and confusion.

XVI.—Concise definiteness is the soul of every tactical order, and of every order given in War.

XVII.—“Never do anything that the enemy manifestly desires you to do, for the simple reason that he does desire you to do it.”—*Napoleon Bonaparte*.

The three following principles being particular cases of the preceding one, but being at the same time capable of being considered as somewhat more than particular cases of it, are put as separate principles.

XVIII.—A strong position taken up by the enemy, especially if the enemy has had time to reconnoitre and fortify it, and has done so, or if the enemy has had time to well reconnoitre it and settle down in it, must never be attacked when it can be turned by menacing the communications.

XIX. In carrying on war in a mountainous country,

a great number of very strong positions are everywhere found. Such positions are not to be attacked when occupied by the enemy. The great principle in carrying on war in a mountainous country is—occupy positions on the flanks or rear of the enemy such as to leave him only the two alternatives, of evacuating his position to retire on another in his rear, or of coming out of his position to attack.

XX.—A strong position taken up by the enemy, especially if the enemy has had time to reconnoitre and fortify it, and has done so, or if the enemy has had time to well reconnoitre it and settle down in it, must never be attacked in front when it can be attacked in flank.

XXI.—In mountain warfare, the attacker having the disadvantage, the general principle of action is—oblige the enemy to attack.

XXII.—An army must always, at every moment, be in a condition to make use of all the force of which it is capable.

Particular Case 1.—Every soldier must always have his arms and ammunition with him.

Case 2.—The infantry must always have its cavalry and artillery with it.

Case 3.—The cavalry must always have its artillery with it.

Case 4.—The different divisions must be always ready to sustain, support, and protect one another.

Case 5.—The army must never halt or encamp in a position which has not all the requirements* of a good position, or field of battle.

XXIII.—Flank marches (*i. e.* marches in which one turns the flank to the enemy) within reach of the enemy are rash, injudicious, and entirely opposed to the principles of war; but when executed just without reach of the enemy, may be among the most splendid and decisive operations.

XXIV.—War is not a conjectural Art. In other words—Combinations are to be constructed so that they may

* A short Chapter is hereafter devoted to the discussion of the requirements of a good position, or field of battle.

depend *vitally*, as little as possible, for success or misfortune on data, of the truth and certainty of which one has not good reason to feel certain. *Never inadvertently, or otherwise, be induced to leave to even the best based conjecture anything of importance, concerning which actual information is to be obtained without much difficulty.* Conjecture must never be allowed to supply the place of actual information where it is practicable to obtain it, and no pains must be spared, and no stone left unturned, in order to obtain accurate information. It is, in general, the want of correct information, though it has even been at times an inadvertent reliance on very strongly based conjecture when real information *was* to be obtained, which occasions the difference between the theory of war and the practice of it, when conducted by a great captain.

XXV.—A battery must always, if possible, be masked before the beginning of the action, either by the ground or by infantry. “Artillery too often, by occupying the highest ground, and not masking the guns, assists the enemy in determining the numbers opposed.”—*Frederick the Great.*

XXVI.—*The power of making offensive movements*, whether one avails oneself of this power and makes the movements, or whether the power of making is retained, no actual movement ensuing therefrom, is the very foundation and soul of *a good defence*.

XXVII.—Neither a river, however great and rapid, nor any other line of obstacles whatever can be defended, unless there are one or more points on it from which one is fully prepared to take a vigorous offensive. When one has done no more than place one's forces for the passive defence of a river, if one is nowhere prepared to take an active offensive, nothing more has been done than to expose the army to the blows of the enemy and to disasters, without the hopes of causing the enemy any misfortune in return; in fact, nothing more has been done than to afford the enemy opportunities of acting on and employing the important Principle V. A passive defence is inadmissible in War. “In war,” says Napoleon, “a river as large as

the Vistula, and rapid as the Danube at its mouth, is nothing, unless there are good points of passage, and a head quick to take the offensive. The Ebro is nothing—a mere line."

XXVIII.—No arm must be employed on ground not suited to its operation.

XXIX.—"In war, the psychical and mental force of an army are to the physical force of the army, in point of power, towards the attainment of success and victory, in the ratio of 3 to 1."—*Napoleon Bonaparte*.

XXX.—When an army is evidently winning, no fresh troops ought on any pretence to be kept unengaged, but every man ought to be engaged. A complete success places the courage and spirits of the two armies in such a relative state, that *the triumphs of the morrow are certain*.

XXXI.—It is a principle of Strategy, to maintain as large a strategical front as possible, consistently with the observance of the principle of interior strategical lines, until such time as the enemy's plans being sufficiently developed and known, and the plan of action thence determined on, concentration and rapid marches become necessary to its execution; and it is equally a principle of Tactics, to maintain as large a tactical front as possible, consistently with the observance of the principle of interior tactical lines, until such time as the opportunity of striking a decisive blow on some point of the enemy's tactical front having been obtained, concentration towards that point becomes necessary.

XXXII.—"On every field of battle, during the whole course of every campaign, and in all sieges, it is equally the Artillery which plays the principal part."—*Napoleon Bonaparte*.

XXXIII.—"The better the Infantry is, the more necessary and expedient it is to protect and support it by a very powerful Artillery. Good Infantry is doubtless the sinew of an army, but if the *very best* Infantry have to fight for any length of time, and support several encounters against an enemy very superior in Artillery, *it will lose its courage, and be ruined*. It may be that a general, very skilful in

manceuvring, more able than his adversary, and possessing better infantry, will obtain successes during *a part* of a campaign, notwithstanding that his Artillery is very inferior; but on the day of a decisive general action, he will feel most cruelly his inferiority in Artillery.”—*Napoleon Bonaparte*.

XXXIV.—The batteries are to be placed in positions suitable to their operation, *as far as possible in advance of the lines of Infantry and Cavalry consistently with their safety*. The Batteries are to command the field of battle from the greatest elevations on the tactical front. The Batteries should be placed, as far as possible, in positions which allow them to turn their fire in all directions, so as to be able to cross their fire before the line of battle, and take the attacking columns' lines and squadrons in *écharpe* and flank.

XXXV.—“To reserve the Cavalry till the end of the battle, indicates ignorance of the power of the combined operation of Cavalry and Infantry for attack and defence.”—*Napoleon Bonaparte*.

XXXVI.—The order of march, when within the circle of the enemy's activity, and before a battle, is dependent on the order of battle previously determined on. Hence, when within the circle of the enemy's activity, the order of march is to be that from which it is most easy to deploy into the order of battle previously determined on. When out of the circle of the enemy's activity, this principle holds still, but in a minor degree, for it may then yield to the expediency of attaining greater convenience, facility, and rapidity, which are perhaps to be attained to a greater degree by a different order of march.

XXXVII.—The art of selecting a position for halting, or for encamping, is none other than the art of selecting a field of battle; the two are perfectly identical.*

XXXVIII.—Nothing is of greater importance in war than that the command should be entirely, completely, and without any reservations or restrictions whatever, in the hands of one man.

* A short Chapter is devoted to the selection of a field of battle.

XXXIX.--“It is a most brilliant manœuvre to make dispositions apparently bad, retaining to oneself the undoubted power of changing them into good ones, and doing this at the right moment. Nothing so greatly disconcerts the enemy, and is so likely to induce him to commit great faults; for while executing his combination for attacking one in a bad position, he suddenly finds himself badly placed in presence of a well-placed enemy; and if he do not change his dispositions, he is beaten; and if he changes them in the presence of his adversary, he is beaten likewise.”—*Maréchal de Saxe*.

XL.—“With an army inferior in number, inferior in Infantry, inferior in Cavalry, and inferior in Artillery, a general battle must be avoided. *Numbers* must be supplied by *Rapidity of Marching*; *Artillery*, by the *Nature of the Manœuvres*; *Cavalry*, by the *Choice of Positions*.”—*Napoleon Bonaparte*.

XLI.—Pursue with the *utmost vigour, rapidity, and audacity*. Retreat before an enemy who has just struck a decisive blow, and knows how to follow it up by exploring this principle to the utmost, will doubtless change into disorderly flight, and end in the ruin of the army.

XLII.—A line of battle is *cæteris paribus* more or less good according as it is more or less difficult to attack it in the direction of its length.

XLIII.—The siege artillery, different parks, baggage, &c., must not enter a defile till possession of the further extremity of the defile has been secured. These must be left in position outside, under a proper escort, till this has been done. It is clear that in case the enemy should oppose the passage of the defile at its further extremity, suddenly or otherwise, or should oppose the passage by occupying a position for that purpose in the defile itself, the embarrassment caused by the siege artillery, different parks, baggage, &c., if allowed to enter before the possession of the other extremity of the defile had been secured, might lead to very serious consequences.

XLIV.—It is the duty of Cavalry to follow up a Victory, make prisoners, and hinder the defeated army from rallying.

XLV.—Artillery being more necessary to Cavalry than to Infantry, since Infantry possesses its own powerful fire, whereas the fire of Cavalry is relatively inconsiderable, *Cavalry must always have its Artillery with it, whether it attacks, remains in position, or retires.*

XLVI.—“In war as in politics, the *lost* moment never returns. Fortune is a woman, and it is necessary to profit boldly by every opportunity.”—*Napoleon Bonaparte.*

XLVII.—When a defile has to be passed within the circle of the enemy’s activity, the troops *halt and take position* or *halt only* on the further side, till the whole army has passed.

XLVIII.—In forming the plan of a campaign, every plan that the enemy can form, or at least every one of the principal ones, of which there will always be a very restricted number, must be taken into consideration; and the plan, when formed, must, in addition to its purely offensive part, (which it must always have, since a passive defensive is inadmissible,) contain within itself the means of successfully opposing every one of those plans which it is considered the enemy may have proposed to himself, as well as every offensive project the enemy may form.

XLIX.—When an army is experienced and warlike, that of the enemy newly levied, or from a long peace inexperienced in war, it is a maxim to endeavour by all possible means to force the enemy, as soon as possible, to a decisive general engagement. If, on the other hand, the case be reversed, one must fortify defiles, endeavour to bring about partial engagements on very favourable and, if possible, entrenched ground, make a liberal use of field-works, and, when a general engagement is determined on, take up a strong position, fortified as much as possible, and with the back well turned to good prepared lines of retreat.

L.—Field-fortifications are *always* useful and *never* injurious when constructed in accordance with the correct principles of the science of Fortification.

LI.—Use the utmost rapidity, gain time, be in readiness at the earliest moment.

LIII.—“An army passes everywhere, and in all seasons, where two men can stand abreast.”—*Napoleon Bonaparte*.

LIV.—“It is a fact that when one is not in a desert, but in a peopled country, if the general is not well-informed it is because he is ignorant of his trade.”—*Napoleon Bonaparte*.

LIV.—When Death is despised and scorned he hides in the enemy’s ranks.

List of several Maxims of War.

I.—In war it is frequently the height of good policy to make *one effort more*, though such course appear desperate. A general who fears to engage *most thoroughly* lest he should have his troops so broken that he will be unable to effect a retreat from the field, had better not fight at all, and retreat at once in the best possible order. “*Media via est tutissima*,” is not a maxim of war, but the *direct contrary* of a maxim of war. “*Media via non est tutissima*,” is a maxim of war; for in war a *middle indecisive course* is in general *certain defeat*. Let us hear Napoleon on this subject:—

“The Glory and Honour of his Country’s Arms ought to be the first and highest consideration with a general who engages in battle. The safety and preservation of the army is only secondary. But it is also in that same Audacity and Obstinacy which the Honour and Glory of his Country’s Arms demand, that the safety and preservation of the army is found. In a retreat, besides the Honour of his Country’s Arms, he will often lose more men than in *two battles*—a reason *never* to despair while brave men remain around the standards. And by this Victory is obtained and *merited*.”

II.—The officer in command of an army, or of any portion of an army, when in the circle of the enemy’s activity, ought frequently to say to himself, “What should I do if the enemy appears in front? what if on the right? what if on the left?”

III.—In war, it is a maxim of wisdom and prudence to

esteem an enemy one knows at his value, and one not known at above his value.

IV.—“A rapid march augments the courage of an army, and increases the probabilities of victory.”—*Napoleon*.

V.—“In Germany and Flanders, the number of the Cavalry ought to be one-fourth of the number of the Infantry; in Spain, one-sixth; on the Alps and Pyrenees, one-twentieth.”—*Napoleon*.

These, then, are the respective proportions in which Napoleon says Cavalry and Infantry ought to enter armies destined respectively to act in Germany, Flanders, Spain, the Alps and the Pyrenees. If, then, France be considered as a mean between Germany and Flanders on the one hand and Spain on the other, in respect of the natural configuration of the soil—an approximate fact which actual observation indicates to be the case, as well as the geographical position of France intermediate between those countries—the Cavalry in an army destined to act in France should be one-fifth of the Infantry. In the Russian Army the Cavalry is more numerous than in any other relatively to the Infantry, an arrangement indicated by the physical configuration and state of the country; and for an army destined to act in Russia, the Cavalry ought to be about one-third the number of the Infantry.

VI.—An officer is never truly and properly seconded, supported, and obeyed by his inferiors, unless he is known to be perfectly inflexible.

VII.—“That general, however able in all other respects, who is unable to obtain the affections of, and excite enthusiasm of some kind or other among his soldiers, is only an ignorant officer.”—*Napoleon*.

VIII.—There are five things which should never be separated from a soldier: his arms, his cartridges, his knapsack, his provisions for at least four days, and his pioneer’s tool.

IX.—A soldier should be encouraged by all possible means to remain a soldier. This is to be done by manifesting respect and esteem for old soldiers, and by augmenting the pay as the duration of the soldier’s service

increases. The pay of a soldier should depend on the time he has served. It is a great injustice not to pay a veteran better than a recruit.

X.—Infantry ought to be ranged in line on two full ranks only, because it is not possible to fire effectively in a deeper order than this, and because it is certain that the fire of the third rank is very imperfect in itself, and injurious to the fire of the other two. To the two full ranks must however be added a third rank, not full, containing *about* one-sixth the number of those in either of the full ranks, the men being distributed at equal intervals, one behind every sixth man.

XI.—A council of war never fights. A general commanding an army in chief ought never to hold a council of war unless he has previously determined not to fight, and wants to saddle a few others as well as himself with the responsibility of the course he had previously determined on. By discussing, debating, and holding councils of war, the worst and most pusillanimous course is almost always taken; and this is a certainty proved by the experience of all ages. For a general commanding an army *privately* to ask, consider, and profit by the views, experience, and advice of any officer in whose opinion he places confidence, is one thing, and most desirable,—to hold a council of war another, and seems little desirable, except in the case mentioned.

XII.—In war, nothing has been done while aught remains to do.

XIII.—In war, indecision is a cancer.

XIV.—In war, nothing is more necessary than to strike the iron when it is hot.

XV.—In war, a good Dodge, Trick, or Artifice is never to be despised.

Before proceeding to any explanation of the preceding principles and maxims, which may appear necessary, and to their illustration and exemplification from Military History, two subjects will be discussed, because, in illustrating and exemplifying the principles and maxims, they can at the same time be illustrated and exemplified.

And these two subjects are—

1. The choice of a Field of Battle, whether the tactical front is selected and occupied before the arrival of the enemy in presence on the field of battle, as was the Russian tactical front at Borodino, the English at Albuera; or whether the tactical front be selected and occupied in the presence of an enemy already in sight or presence at the end of, and as the result of, a quantity of manœuvres, as was the French tactical front at Austerlitz, the English at Salamanca.
2. The determination of the Decisive Point of a Field of Battle.

CHAPTER III.

ON THE CHOICE OF A FIELD OF BATTLE, WHETHER THE TACTICAL FRONT (SEE DEF. 7) IS SELECTED AND OCCUPIED BEFORE THE ARRIVAL OF THE ENEMY IN PRESENCE ON THE FIELD OF BATTLE, AS WAS THE RUSSIAN TACTICAL FRONT AT BORODINO, THE ALLIED TACTICAL FRONT AT ALBUERA ; OR WHETHER THE TACTICAL FRONT IS SELECTED AND OCCUPIED IN THE PRESENCE OF AN ENEMY ALREADY IN SIGHT OR PRESENCE AT THE END OF, AND AS THE RESULT OF, A QUANTITY OF MANEUVRES, AS WAS THE FRENCH TACTICAL FRONT AT AUSTERLITZ, THE ENGLISH AT SALAMANCA.

THE choice of a field of battle is the choice of an area of ground containing a position (see Def. 13 of a position) which the army is to occupy, and one or more opposing positions, either of which the enemy in giving battle to the army may assume.

The choice of a field of battle by either army obviously depends on the relative constitution of the two armies. A great preponderance of either of the three arms possessed by one of the two armies over the same arm in the other cannot be overlooked in the choice of a field of battle. Thus, for example, an army inferior in infantry, but superior in artillery, would, in selecting a position in which to give battle, choose one whose long, gentle, even, unencumbered slopes it could sweep in all directions to the extreme range of its artillery ; whereas the enemy, inferior in artillery, but superior in infantry, would choose a position with steep, rugged, and encumbered slopes, and separated from any opposing position the enemy might assume by a steep narrow valley.

This being the case, it appears best to state the properties or requirements which a field of battle should possess in order to its being a good one, supposing each army to have the three arms enter its constitution in the same proportions, and afterwards introduce the modifications

resulting from a marked preponderance of either arm in either army.

Before stating these properties or requirements of a field of battle, or of the area of ground containing the position occupied by the army, and every one of the positions which the enemy may assume in order to engage the army, the two following premises have to be made.

1. That in order to make a brilliant or good application of either of the principles, it may be better to choose a field of battle which possesses the properties or requirements to be stated in a lesser degree, in preference to one which possesses them in a greater; the good application of the principle more than compensating for such inferiority in configuration of the inferior field of battle in the properties and requirements.

2. That in choosing a field of battle, the excellence of the tactical position which the army itself occupies is *not* alone to be considered; but it is the relative excellence of the position which the army occupies, considered with regard to that of either of the positions (if more than one) which the enemy may assume in order to engage the army in its position.

Regard being paid to these two premises, the properties or requirements of a field of battle are—

1. The field of battle shall have good and easy communications running along the whole length of the tactical front occupied by the army.

2. The field of battle shall have bad communications, the worse the better, intersected by natural obstacles, the greater the better, (as rivers, ravines, brooks, lakes, ponds, &c.) along the length of every one of the tactical fronts which the enemy can assume in order to engage the army.

3. The field of battle shall be such as to conceal from the enemy all movements made from one wing to the other of the army along the rear of its position.

4. The field of battle shall be such as to expose to the army all movements made from one wing to the other of the enemy along the rear of every one of the opposing positions the enemy may take up.

5. The field of battle shall afford the army easy lines of retreat.

6. The line or lines of retreat for the army shall lie behind the strongest and least attackable part of its position or of its tactical front, and shall have their direction such as to be the least possible exposed to the enterprises of the enemy.

7. The enemy's line or lines of retreat shall lie behind the weakest and most attackable part of his position, or of his tactical front, and shall be by their direction as much as possible exposed to the enterprises of the army.

8. The field of battle shall be such, that the flanks of the position which the army occupies shall be either supported and protected by strong tactical pivots, (see Def. 8,) so situated, if possible, that artillery placed in them shall be able to sweep the slopes of the position towards the front or flank in all directions to the full extent of its range; or that the flanks shall be protected by strong physical obstacles, as rivers, marshes, chains of impassable mountains, impassable woods, &c., forming a strong tactical defensive line protecting the flanks, and reducing the enemy to attack on some part of the front of the line of battle.

9. The field of battle shall be such, that if the enemy make a movement in the endeavour to turn a flank of the position occupied by the army, a *small* counteracting movement on the part of the army may oblige the enemy either to desist, or, if he persevere in his endeavour to turn the flank, greatly to extend his preconceived movement, and so engage him in a very large and hazardous movement, while executing which he will probably be attacked on some part of his tactical front and beaten.

10. The field of battle shall be such that if the enemy should endeavour to outflank and take one of the wings in reverse, its configuration presents a new position, which being occupied, a new advantageous position of battle is assumed beyond the menaced flank, which position shall be capable of being more readily occupied by the army than the new position which the enemy must assume to attack it can be by the enemy.

11. That the position occupied by the army shall contain several good tactical pivots along the tactical front so situated.

(1.) That the enemy shall be obliged to take some of them before he can attempt to begin, and all of them before he can complete his grand attack on the decisive point of the position.

(2.) That, if possible, artillery placed in these tactical pivots may be well placed, *i.e.* may be enabled to turn its fire in all necessary directions and sweep the entire surface of the ground to a good range.

(3.) That Batteries placed in position along what may be called the main line of battle may be able to cross their fire before those of the tactical pivots situated in advance of it, in the same way as the fire of the flanks of the two adjacent bastions in a bastioned *enceinte* crosses before the angle of the intermediate bastion.

12. That the position occupied by the army shall secure to the artillery its full defensive effect.

Before proceeding to state briefly the modifications for a marked superiority of either arm in either army, it is again to be remarked:—

That the excellence of a field of battle does not depend absolutely and entirely on the excellence of the position in it assumed by the army, but on the *ratio* of the excellence of the position assumed by the army and of the positions to which it can by manœuvring thence pass, to that of any of the opposing positions in the field of battle which the enemy can assume, and those to which he can by manœuvring pass.

And this remark is to be taken with all the deductions from it which can be made with regard to the twelve requirements or properties which have been stated. Thus, for example, with regard to the property 1. A field of battle which affords the army a position whose communications running along the length of the tactical front are intersected and rendered less convenient by natural obstacles, may be a better field of battle than one which affords good and easy communications running along the whole length of the tactical front, because it may at the

same time give the enemy obstacles of a far higher magnitude, intersecting his communications along his tactical front from one wing to the other; and the latter might leave him with communication along his tactical front equally devoid of obstacles and easy with those of the army.

To state briefly the modifications for a considerable superiority of each of the three arms in an army.

1. If an army be considerably superior in Infantry.—A field of battle should be chosen which contains numerous tactical pivots, abounds in those minor obstacles, such as small deep brooks, hollow roads, small ravines, broken ground, &c., which destroy, or at least impede to a very great extent indeed, the action of cavalry and light artillery, while they assist, to a certain extent, the operations of infantry; and, lastly, the field chosen should be such, that the steep and broken slopes of the positions contained in it, reduce the effect of artillery by rendering its fire too plunging to have its full effect, and present numerous hollows into which the artillery cannot see, while the steepness of the slopes tends also to impede the operation of cavalry. The valleys too between the positions should be very narrow, that the lines of battle of the two armies may be brought as near as possible together.

2. If an army be considerably superior in Artillery.—A field of battle should be chosen such that the gentle slopes of the positions therein contained form glacises which, uninterrupted by hollows into which the artillery would not be able to see, secure to the artillery its full effect. The valleys too between the positions should be broad and the surface of the soil firm, that the artillery may manoeuvre with ease and rapidity. All the approaches to the position occupied by the army should be capable of being beaten by the artillery to the full extent of its range.

3. If an army be considerably superior in Cavalry.—The field of battle should possess as few obstacles as possible, especially minor obstacles, such as small deep brooks, small deep ditches, hollow roads, small ravines, broken ground, because these minor obstacles hinder the

operation of cavalry to a far greater extent than they do that of infantry ; and if they do not entirely stop its operation, hold it passive under fire, and destroy the impulsion and rapidity in which its power mainly consists. Provided the hills or eminences in the position occupied by the army present épaulements sufficiently elevated to shelter cavalry placed behind them from fire, the slopes can hardly be too gentle, or the hills or eminences of the position too little elevated.

It need hardly be remarked, that the length and magnitude of the positions presented by a field of battle must be in due proportion to the numbers and rapidity of evolution of the army, in order that it may be for the army a good field of battle. The slower an army is, the more contracted should be the positions it occupies.

CHAPTER IV.

ON THE DETERMINATION OF THE DECISIVE POINT OF A FIELD OF BATTLE.

THE definition 9 is the definition of the decisive point of a field of battle.

Recopying that definition here for the convenience of the reader :—

Def. 9.—The Decisive Point of a field of battle is in all battles of one of four kinds, and it may be of either of these.

The Decisive Point of a field of battle is, then, either—

1. That part of the field of battle, *already occupied by and in the possession of the enemy*, of which it is *most expedient to force and take possession*, by directing to that object *the utmost combined efforts of which the whole army is capable*.

2. That part of the field of battle left unoccupied by the enemy, and not yet occupied by the army, on which it is *most expedient to seize*, in consequence of its possession when seized leading *inevitably* to subsequent most advantageous *offensive operations*.

3. That part of the field of battle left unoccupied by the enemy, and not yet occupied by the army, on which it is *most expedient to seize*, in order to the excellence of subsequent *defensive operations*.

4. That part of the field of battle already occupied by, and in the possession of the army, of which it is *most expedient to hold and keep possession*, by directing to that object the utmost united efforts of which the whole army is capable, in the case that the enemy attack.

Hence the decisive point of a field of battle may be either—

1. A point already occupied by and in possession of the enemy, of which possession is to be forced offensively, and

to the attainment of which the utmost combined efforts of the whole army are to be directed.

Or it may be,

2. A point unoccupied as yet by either army, of which possession is to be seized offensively, in order to the subsequent inevitable very advantageous combined offensive action of the whole army.

Or it may be,

3. A point unoccupied as yet by either army, of which possession is to be seized, in order to the subsequent combined very advantageous defensive action of the whole army.

Or it may be,

4. A point already occupied by, and in the possession of the army, to holding and keeping possession of which against all attacks of the enemy the utmost combined efforts of the whole army are to be directed in case the enemy attack.

A decisive point of a field of battle of either of the two first of the four kinds is called an *Offensive* decisive point, and one of either of the two last of the four kinds is called a *Defensive* decisive point.

Hence it follows, is manifest, and *necessary to be remarked*, that if the decisive point of any field of battle selected by either of the two armies be an *offensive* decisive point, that army *of necessity, and as a necessary consequence*, takes the offensive, and attacks. And on the other hand; if either of the two armies takes the offensive and attacks, then the decisive point which has been selected by that army is *of necessity* an *offensive* decisive point.

And, similarly, it follows, that if the decisive point of any field of battle selected by either of the two armies be a *defensive* decisive point, that army *of necessity* takes the defensive. And on the other hand; if either of the two armies act defensively, then the decisive point which has been selected by that army is *of necessity* a *defensive* decisive point.

Every field of battle, then, has manifestly on its surface *two* decisive points, which it presents to the option or choice of each of the two armies, of which the one is an

Offensive decisive point, the other a Defensive decisive point.

Also it is evident that the Offensive decisive point for the one army is the Defensive decisive point for the other, and the Offensive decisive point for this other is the Defensive decisive point for that one. Hence, the discussion of the determination of the decisive point of a field of battle may be, and appears of necessity, divided into the following two parts:—

1. The determination of the two decisive points, the one Offensive, the other Defensive, which an army in sight and presence of another army possesses in the field of battle.

2. The choice between these two, viz., the Offensive point and the Defensive point, which an army is to make.

And if these two divisions of the subject be discussed, then the discussion of the determination of the decisive point will be complete, for a single point will have been determined on which is the Decisive Point of the Field of Battle.

To discuss the first of the two divisions,—

First.—To determine the Offensive decisive point of the field of battle for one of two armies on it.

To state, then, and exhibit the qualities of any point and considerations concerning it which render it a more or less decisive point according as they are possessed by the point in a greater or less degree.

These qualities of a point and considerations concerning it appear best exhibited in the form of questions, and a point will be more or less decisive according as the answers which can be given to these questions concerning it are more or less favourable and affirmative. Five principal questions will be given, and some of these will have several minor component questions.

QUESTION I. Is the point such, that in forcing possession of it, or seizing it, according as it is occupied or unoccupied by the enemy, a brilliant or good application is made of the principles of tactics?

And this question contains as many component questions as there are principles of tactics which bear upon the subject. Hence we have, referring to the Principles,—

1. Is the point such that in forcing possession of it the mass of the army is brought into collision with fractions of the enemy successively? (See PRIN. III.)
2. Is the point such that in the forcing possession of it the mass of the army is brought into collision with a fraction of the enemy which is separated from the rest of the enemy's army by a sufficiently insurmountable physical obstacle across the enemy's tactical front, and which fraction can be thus overwhelmed before it can be supported? (See PRIN. III. *Cases 2, 3, 4.*)
3. Is the point such that in the forcing possession of it the mass of the army is brought into collision with a fraction of the enemy separated from the rest of the enemy's army by too great a distance to permit succour to arrive in time? (See PRIN. III. *Cases 5, 6.*)
4. Is the point such that in forcing possession of it the mass of the army is brought to bear as much as possible on one wing and flank of the enemy? (See PRIN. III. *Case 11.*)
5. Is the point a point of concentration of the enemy's army, and as yet only occupied by a portion of the enemy, the remaining columns not having yet arrived? (See PRIN. III. *Case 7.*)
6. In the case that the enemy is thought to have assumed a too extended tactical front, is the point such that a reasonably certain expectation can be formed that in forcing posession of it the mass of the army will be brought into collision at a point towards the enemy's centre with a fraction of the enemy only, in consequence of the too great extension of the front preventing the arrival of succour soon enough, and that so the enemy will be divided into two parts? (See PRIN. IV.)
7. Is the point such that while the mass of the army is thrown on to a fraction of the enemy's line on it the remainder of the enemy can be kept in check by a much smaller body of the army, so that it cannot bring assistance on the point? (See PRIN. V.)
8. Is the point situated before *that* extremity of a defile or bridge (whether permanent or constructed by the enemy's engineers expressly for the purpose of crossing

the river at that point) *from which the enemy is debouching*, and such that by attacking at that point the mass of the army is brought into collision with a fraction of the enemy of the size it is deemed most expedient, in order to cause the enemy the greatest possible loss, the remainder of the army being still in the defile, or on the further side of the river? (See PRIN. III. *Cases 8, 9.*)

9. Is the point situated before that extremity of a defile or bridge at which a retreating enemy must enter in order to continue his retreat, and such that by attacking on it the mass of the army can be brought into collision with whatever fraction of the enemy is deemed most expedient in order to cause the enemy the greatest possible loss, the rest of the enemy having already entered the defile or crossed the bridge? (See PRIN. III. *Case 10.*)

QUESTION II.—Is the point such that the forcing possession of it is *easy*? for any of the following reasons:—

1. The absence of a tactical defensive line, or tactical obstacles, or tactical pivots, protecting and supporting it.

2. The inadequate and feeble occupation of the point by the enemy, who may not attach to the point the importance it deserves, and have directed his dispositions and strength to the defence of some other point, which it is not the interest of the army to attack.

3. A selection of a field of battle on the part of the enemy which is faulty, in consequence of his *not* having taken correctly into consideration *the relative constitution of the two armies*.

4. The entire non-occupation of the point by the enemy, who has entirely mistaken and neglected his defensive decisive point.

Before proceeding to Question III. it is to be remarked, that if any one of the nine component questions of the main Question I. can be favourably and satisfactorily answered respecting any point, it will also, as a necessary consequence, be in general *easy* to force possession of that point.

QUESTION III.—Is the point such, that, supposing it *to have been* taken possession of by force, or seized, according

as it is occupied or unoccupied by the enemy, the army is *then* in a position to make a brilliant or good application of either of the principles of tactics?

And this question contains, in the same way as the main Question I., the same number of component questions as there are principles of tactics and marked particular cases of principles which bear upon the subject. Thus,—

1. Is the point such that, supposing it to have been taken possession of by force, or seized, according as occupied or unoccupied, the army is *then* in a position to bring its men into collision with fractions of the enemy successively? (See PRIN. III.)

2. Is the point such that, supposing it to have been taken possession of by force, or seized, according as it is occupied or unoccupied, the army is *then* in such a position that the mass can be brought into collision successively with fractions of the enemy, separated from one another by insurmountable or sufficiently insurmountable physical obstacles, or if not with several successively, at least with a single fraction of the enemy, separated from the rest by a sufficiently insurmountable obstacle? (See PRIN. III. Cases 2, 3, 4.)

3. Is the point such that, supposing it to have been taken possession of, or seized, according as it is occupied or unoccupied, the army is *then* in such a position that the mass can be thrown successively on fractions of the enemy, separated from one another by too great distances to give time for the arrival of succour? (See PRIN. III.)

4. Is the point such that, supposing it to have been taken possession of by force, or seized, according as it is occupied or unoccupied, the army is *then* in a position to form its line of battle at right angles, or nearly so, to that of the enemy, and so attack him *in flank*, thus throwing at the same time the mass of the army on *one wing only* of the enemy? (See PRIN. III. Case 11.)

5. Is the point such that, supposing it to have been taken possession of by force, or seized, according as it is occupied or unoccupied, the enemy is anticipated at his point of concentration, and the army is in a position to

overwhelm the enemy's columns successively as they arrive or are found? (See PRIN. III. *Case 7.*)

6. Is the point such that, supposing it to have been taken possession of by force, or seized, according as it is occupied or unoccupied, *then* the enemy, on a too extended tactical front, will be divided into two parts, and the army in a position to defeat them successively? (See PRIN. IV.)

7. Is the point situated before that extremity of a defile or bridge (whether permanent or constructed expressly by the enemy's engineers) *from which* the enemy is debouching, and such that supposing it taken possession of by force, or seized, according as it is occupied or unoccupied, the army is in position to attack the enemy as soon as that fraction of his forces it is judged most expedient to attack, in order to cause him the greatest possible loss, has debouched from the defile or bridge? (See PRIN. III. *Case 9.*)

8. Is the point situated before that extremity of a defile or bridge at which a retreating army must *enter* in order to continue his retreat, and such that supposing it taken possession of by force, or seized, according as it is occupied or unoccupied, the army will be in a position to cause the fraction of the enemy still outside the defile great injury, and *enter the defile pèle-mèlé with the enemy?* (See PRIN. III. *Case 10.*)

9. Is the point such that by attacking on it the mass of the army is brought into collision with a fraction of the enemy posted in position, or deployed in battle, in order to protect the remainder of the army which is *in columns*, *executing a flank march*, or executing any complicated manœuvre, or in a state of great unreadiness, so that possession of the point having been gained, the mass of the army can be thrown on an unprepared enemy? (See PRIN. XXIII.)

QUESTION IV.—Is the point such that, supposing it to have been taken possession of by force, having been occupied by the enemy, the army is then well placed, both because the configuration of the new position of battle thus assumed is good, and possesses good tactical pivots, and because the position is well occupied by the army?

The assistance which the Chapter on the Choice of a Field of Battle gives toward the solution of this question is manifest.

And the utility and necessity of the question, in case it should be thought necessary that these should be vindicated, appears from the fact, that if a point were seized in order to apply a principle, yet when seized puts the army in a very bad position, the enemy might be in a state to make a still better application of the principles than that which was made by the army in seizing the point.

QUESTION V.—Is the point such that the possession of it by the army, supposing it to have been taken possession of, or seized, according as it is occupied or unoccupied by the enemy, affects, operates upon, or closes the enemy's communications, or lines of retreat from the field of battle, and confers the power of driving him more or less from his communications?

It may be remarked how greatly the value of a point is raised, as an offensive decisive point, when its possession, supposing it acquired, affects to a very considerable degree the communications or lines of retreat of the enemy, and *most* especially if it confers the power of driving the enemy in case he is beaten on to some impassable or nearly impassable physical obstacle, as a large and deep river, a lake, a marsh, a chain of mountains, the sea, &c., for this is none other than depriving him at once of all his lines of retreat. (See PRIN. II. itself, and also PRIN. II. Case 5.)

We have, then, five principal questions, with their subordinate component questions, and the more affirmative and favourable the answers which can be given to these, when asked with respect to any point in the field of battle, the more likely it is that that point is The Offensive Decisive Point.

Hence, in order to determine the Offensive Decisive Point of a Field of Battle, those points which have any pretensions to be it (*and the number of these is always very restricted indeed*) have to be passed in review and consideration, and that of them concerning which the most favourable and affirmative answers to the five Questions and their

subordinate component Questions can be given, is The Offensive Decisive Point of the Field of Battle.

Or, recapitulating and abbreviating :—In order to discover the Offensive Decisive Point of a Field of Battle, the following questions may be asked concerning any point which has *prima facie* pretensions to be the offensive decisive point.

1. Is a more brilliant or better application of the principle of tactics made *in and whilst* directing the grand attack on that point than on any other point which has any pretensions to be the offensive decisive point?

2. Do the configuration of the ground, its tactical characteristics, and the disposition of the enemy indicate that it is easier and more advantageous to direct the attack on that point than on any other point which has any pretensions to be the offensive decisive point?

3. Supposing possession of the point to have been obtained, is the army *then in consequence* in a position to make a more brilliant or better application of the principles of tactics than it would be, supposing possession to have been obtained of any other of the points which have any pretensions to be the offensive decisive point?

4. Supposing possession of this point to have been obtained, is the army on a field of battle which is from the configuration of the ground and its tactical characteristics better than the field of battle which would be obtained, supposing possession to have been taken of either of the other points which have pretensions, and is the field of battle also better occupied by the army and worse by the enemy?

5. Supposing possession of this point to have been obtained, are the communications and lines of retreat of the enemy more seriously menaced, affected, or closed, than they would be if possession were obtained of either of the other points which have any pretensions to be the offensive decisive tactical point?

Having then discussed the determination of the Offensive Decisive Point which every army in presence of an enemy possesses in every field of battle, we have next in order—

To determine the Defensive Decisive Point which every

army in presence of an enemy possesses in every field of battle.

It is clear that the offensive decisive point of the army is the defensive decisive point of the enemy, and the offensive decisive point of the enemy is the defensive decisive point of the army. Hence we are enabled in the following manner at once to arrive at the object.

Let the army be supposed in the place of the enemy, and the enemy in the place of the army, then determine in the way already discussed which would be the offensive decisive point of the army. That point, then, which on this supposition would be the offensive decisive point of the army is in the army's actual position the Defensive Decisive Point which it is the object to discover.

This is the best, and appears to be the only way of determining the offensive decisive point of the field of battle. It is only by considering what the army might and ought to attempt, supposing it in the place of the enemy, that the defensive decisive point of the field of battle—in other words, that point to the attacking on and obtaining possession of which the enemy ought, in case he is determined to attack, to direct the utmost combined efforts of his whole army when the decisive moment arrives, (see PRIN. XIII. XIV.) and to the defence of which the army ought, if it remains on the defensive, to direct the utmost combined efforts of which it is capable—can be correctly determined. It is by supposing the army in the place of the enemy, and the enemy in place of the army, and then considering all the feasible manœuvres which the army would attempt, that all the manœuvres which the enemy may in reality attempt are discovered, and proper means in consequence taken for counteracting them.

The Principle XXIV. indicates the extreme value of correct information in war, and it will be seen in the Chapter on "The different means of obtaining correct information in war," how important a means in *obtaining, verifying, and correcting* information in all questions both Strategical and Tactical the art of making just suppositions on all the courses left open to the enemy is. Not to digress, the determination of the Offensive and Defensive

decisive points having been discussed, it now remains to speak as to the choice between these two.

Recopying the question which it has been said was now to be treated on in order:—

“ 2.—The choice between the two, *viz.* the Offensive Decisive Point, and the Defensive Decisive Point.”

And first, it has to be remarked that there are cases, and those numerous, where *no choice or option is left*, because it has been seen that to take the offensive is *of necessity* to choose an offensive point, and to take the defensive is *of necessity* to choose a defensive point; and *Strategical and Political Reasons* may compel and render it necessary for an army to take the offensive or the defensive, as the case may be, under which circumstances *no free option* between an offensive decisive point and a defensive decisive point is left. Though this is not, in consequence of the arrangement decided on, the place to illustrate and exemplify the subjects of the Second, Third, and this Fourth Chapters, *viz.* the Principles and Maxims, the Choice of a Field of Battle, and the determination of the Decisive Point, yet the preceding assertion appears to demand here a brief exemplification, before dismissing it for greater exemplification to the succeeding chapter. When Soult, coming from Andalusia, entered Estremadura, and found the Allies under Beresford in position across the road to Badajos at Albuera, the Allies had determined not to attack Soult, because their object was to prevent him from relieving the French garrison in Badajos, and they thought their position barring the road a strong one, with a good defensive decisive point protected by the village of Albuera, a tactical point, and because time was bringing them advantages and reinforcements. Hence Soult, whose main strategical object was to apply Principle III., by beating the Allied army under Beresford before it could be joined by the reinforcements which he knew the victory of Fuentes Onoro would allow to be sent to the Guadiana, and second object to relieve Badajos, the road to which it has been said the Allied army was barring, being in line of battle on a position across it, and who was, moreover, induced by this, that having marched from Andalusia expressly

to fight, to depart without fighting was to destroy or impair the military mental and psychical qualities of his army, found himself obliged by strategical reasons to take the offensive and attack. Hence Soult being obliged by strategical reasons to attack, had no option as to whether his decisive point was an Offensive or a Defensive. Higher reasons and weightier interests rendered Napoleon's decisive point at Borodino of necessity an Offensive point. Again, it has to be remarked that the choice appears never entirely free from the influence of Strategical and Political Reasons, which have always to be considered, and have their due weight, generally a considerable one, allowed them.

In Strategy the Initiative and Offensive ought *always* to be taken. In Tactics this is not so, and in Tactics the rule appears to be—

Do not take the offensive unless the army has some *very good* offensive decisive point, and consequently a *very good* application of the principles of tactics can be made. If the army has not a very good offensive decisive point, take the defensive and endeavour to induce the enemy to attack. If there is no very good offensive decisive point, and the enemy will not attack, then, if Political and Strategical Reasons allow time, and leave a free option, the army should manœuvre in order that either it may find a very good offensive decisive point, in consequence of the enemy having been induced to make a great blunder or having done so of his own accord, or in order that the enemy may be induced to lose patience and attack. If the army has at the same time a very good offensive point and a very good defensive point, and the enemy appears and is evidently willing to run the risks of making a grand attack on this very good defensive point, then it is a nice question of judgment whether to take the offensive by attacking on the very good offensive decisive point the army possesses, or to take the defensive on the very good defensive point, and let the enemy attack. But it is not to be understood that the army is to maintain a passive defensive. In those cases in which a defensive is recommended, it is not meant that the defensive is to be maintained *throughout* the battle, unless weakness

prevents the change in the defensive for the offensive *during* the battle at the right decisive moment (see Prin. XIII. XIV.), which will generally be the moment at which the enemy's great attack and effort have been repulsed. In all cases whatever, when the defensive is assumed at the commencement of the battle, the defensive should be changed for a vigorous offensive in the course of the battle at the right moment, or in general at the moment when the enemy's grand attack having developed itself, has been repulsed. Hence, recapitulating, it is not recommended to take the offensive at the beginning of a battle,—in other words, to fight an *offensive* battle (always, of course, supposing Strategical and Political Reasons leave a free option), except there is a *very good* offensive decisive point, and in consequence a *very good* application of the principles can be made. In other cases a Defensive-Offensive battle, *i.e.* a battle in which the army takes the defensive at the commencement, and changes to a vigorous offensive at the right moment in the course of the battle, is recommended. Too great weakness is the only excuse for not allowing the army at the right moment to change its defensive for a vigorous offensive,—in other words, for allowing a Defensive-Offensive to degenerate into a Defensive battle. It is reasonable that, as the range and accuracy of musketry and artillery increases in consequence of improvements, and that of the former has certainly of late made rapid strides, the advantages of the defensive in tactics, and consequently of defensive-offensive battles, will be augmented. The advantages of a defensive-offensive battle are already great, except in the cases where an offensive battle is recommended, for the attackers have to pass an area of ground more or less broad, swept by a fire of musketry and artillery, and cannot fail to experience considerable loss in so doing, and be in greater disorder than those who are to repulse them, and who have not been nearly so much exposed to fire; the attack, too, takes place on ground better known to the army than to the enemy—in fact, in general, on or about the crest of the army's position—and the army's reserves are nearer at hand than the enemy's. In fact, on con-

sidering the subject, " everything looks as if the attackers must be repulsed with considerable loss."* Then, supposing the attackers repulsed, the moment they have fairly turned their backs the decisive moment has, in general, arrived, and the defenders now becoming attackers, are to pass the valley between the positions close on the heels of, and, if possible, *pèle mêle* with the fugitives. The great advantages of changing in this way to the offensive is, that without doing so the *fruits* of the Victory are lost, and a victory is nothing without its fruits to what it is with them. For example, by allowing the victory to finish defensively, when it could be well finished offensively, an immense number of prisoners are lost which in the other case would certainly be taken, a large portion of the enemy's artillery, which would to a very high degree of probability, if not inevitably, be captured, is voluntarily resigned, and, what is as bad, *the military psychical and mental qualities of the enemy remain comparatively untouched*. Besides, the Principle XXIX, and the Maxim XIV., indicate that the moments of the enemy's greatest psychical, mental, and physical weakness are to be seized, and a vigorous offensive attack developing itself majestically at the moment the attacking columns or lines, in which the enemy placed his hopes of victory, are repulsed, and, in fact, already flying before it, is more likely to strike terror into the enemy than at any other time.

The stroke of an army in battle, when its grand attack has developed itself, and the decisive moment sounds, should have an analogy with the stroke of a mighty wave, which, having struck the opposing stranded ship in pieces, seems as yet not contented with its Victory, but still rolls on to overwhelm and surge around the fragments.

• Baron de Jomini, *Precis de l'Art de la Guerre*.

CHAPTER V.

ON THE EXPLANATION, ILLUSTRATION, AND EXEMPLIFICATION OF THE SUBJECTS OF THE THREE PRECEDING CHAPTERS, VIZ., THE PRINCIPLES AND MAXIMS OF TACTICS, THE CHOICE OF A FIELD OF BATTLE, AND THE DETERMINATION OF THE DECISIVE POINT OF A FIELD OF BATTLE.

BEFORE proceeding to the subject of this chapter, since the reader will, in the course of it, be very frequently referred to the plans placed together at the end of the treatise, and because the way in which the configuration of the ground is represented in the plans requires explanation, and the colours by which the positions of the armies are represented require to be stated, it is thought best again to inform the reader, that *immediately preceding* the plans, which are placed together at the end of the book, there is inserted an explanation of the plans, with the reasons for using the kind of drawing employed.

The following account of the Battle of Rivoli is given in explanation, illustration, and exemplification of the particular cases 1, 3, of Principle I, and of particular cases 1, 7, of Principle III, especially, though it will be endeavoured to lose no opportunity which may present of explaining, illustrating, and exemplifying any others of the principles and maxims. To have a clear comprehension of the battle, it appears necessary to begin with the history of the campaign subsequent to December 30th, though this history in part falls within the domain of Strategy, and not of Tactics.

Positions of the Adverse Armies, December 30th, 1797.

AUSTRIANS.

Wurmser, with 15,000 men, having been compelled to take refuge in Mantua, is there invested.

Alvinzi, having been driven behind the Brenta, is now, with his army again reinforced and augmented to about 47,000 men, behind the Brenta, the Piave, and the Upper Adige, preparing to take the offensive, and rescue Wurmser.*

FRENCH.

The Division Serrurier, 10,000 strong, is before Mantua, blockading Wurmser in that place.

Division Augereau, 8,000 strong, is on the Adige, from Verona to beyond Legnago.

Division Joubert, 12,000 strong, is defending the inlets from the Tyrol, and closing the inlet between the east shore of Lake of Guarda and the right bank of the Adige, by occupying the strong positions of Ferrara, Corona della Madona, and Preabocco.

Division Massena, 12,000 strong, is at Verona.

Division Rey, 4,000, is at Desenzano, observing the valley of the Chiese, and the west shore of Lake of Guarda.

Hence, total Austrian force amounts to 62,000, and total French force to 46,000.

General Buonaparte waited in his positions till the offensive operations of Alvinzi should have sufficiently developed themselves, watching his opportunity.

Before narrating the course of the campaign, and the way in which Buonaparte learnt what Alvinzi's plan for commencing operations was, the reader had best be informed of thus much of Alvinzi's plan, viz., that he divided his 47,000 into 3 fractions, containing respectively 7,000, 10,000, and 30,000. Alvinzi directs the column of 7,000, under Balagich, by Vicence on Verona, and the column of 10,000, under Provera, on Legnago. He himself, with

* If the reader should not possess a good map of Northern Italy, and should have the two large maps of Central Europe attached to the Author's "Elementary Treatise on Strategy," good maps for reading anything concerning the last great war in Europe, which took place within the scope of the contents of those two maps, may be made by writing in them, from the best atlas to which access can be had, the names of the towns and rivers, which names were not inserted in the maps, that the eye of the reader might fall with greater facility on those places mentioned in the treatise to which the maps belong.

the column of 30,000, descends the valley of the Adige, principally by the right bank, in a manner which will afterwards be explained.

January 11th.—Buonaparte learns, from the advanced posts, that the heads of two columns are seen approaching, the one to Verona, the other to Legnago.

January 12th.—Massena's advanced posts on the road between Vicence and Verona are driven in; but the greater part of the division having deployed, the column is quickly driven back.

Hence Buonaparte acquires the certainty that the column directed on Verona is not composed of more than 7,000 men, and that this is not the main army.

January 13th.—Buonaparte learns in the afternoon, by a despatch from Joubert,

1. That he has been attacked in front by very superior forces near Madona della Corona, and is in retreat on Rivoli, and intends to continue his retreat from that place to Castel Nuovo.

2. That the portion of his division at Preabocco had, before receiving orders to fall back, in consequence of Joubert's retreat on Rivoli, discovered the approach of one numerous column by the right bank of the Adige, between that river and Mount Magnone, and of another column by the left bank.

Let us see what it is reasonable to suppose Buonaparte concluded, as to Alvinzi's plan of operations, from the information which he has been said to have acquired up to this time.

Joubert's despatch left Buonaparte no doubt that it was the main body of the enemy which was descending the valley of the Adige. Buonaparte knew of the existence of that column of 7,000 men on the road from Vicence to Verona, which the division Massena had driven back.

Buonaparte also knew, as has been stated, of the existence of another column directed on Legnago, and since this he had discovered not to be the main column, he would probably conclude to be of somewhere about the same magnitude as that directed on Verona, say 10,000 men; as well it is only reasonable to suppose that he had already received information as to the approximate

magnitude of this column. Having, then, recapitulated the data Buonaparte possessed, it is reasonable to suppose that he would thence conclude,—

That the Austrians had adopted very *exterior* lines in opposition to the principle of interior *lines*, equally a principle of Strategy and Tactics. That this violation of the principle of interior lines might not, however, be without a reason and object, for that the two smaller columns of 7,000 and 10,000, directed respectively on Verona and Legnago, might be sent solely for the purpose of drawing him eastwards towards the Brenta, either by the hopes of overwhelming one or both these fractions with the mass of his army, an error into which the Austrians might hope he would be the more likely to fall, from a belief that the rest of their army was between the Adige and the Brenta, in the rear of these two columns, and connecting them, say towards Montebello, San Bonifacio, or Lovigo, and that in consequence he had nothing to fear for his communication; then, if he fell into this error and marched towards those columns to attack them, they would fall back before him according to their orders, and endeavour to draw him, by the hopes of applying the principle III, and overwhelming them with his mass, as far as possible, east of the Adige, while the main army, which it is to be remembered Buonaparte knew was descending the Adige towards Rivoli, and whose line of march was in fact a straight line, pointing to and passing through Mantua, would march straight to Mantua, raise the siege, relieve the place, liberate Wurmser with his 15,000 men, and thus place itself, augmented by these 15,000 in a position cutting him completely from his communications; and that this supposition as to Alvinzi's motives was somewhat strengthened, by the apparent readiness with which the column directed on Verona retreated when attacked by the division Massena.

Whether the preceding were the real motives which led to the dispositions of Alvinzi is not known for certain to the writer of this treatise, but to suppose that they were from the dispositions is to put *the most favourable construction on the dispositions*; and Buonaparte has therefore been supposed to have viewed Alvinzi's plan in this way, because

a general ought always to appreciate the full amount of danger with which his enemy's dispositions threaten him, and is bound to act on the supposition that his enemy appreciates and understands the full advantages which his own plan possesses. That Alvinzi had not any other motive than *that of surrounding the French army strategically*, in consequence of a belief in a false principle, viz. that an army ought to operate on exterior strategical and exterior tactical lines, appears very probable, for if his motives in detaching the two columns from the main army had been those which Buonaparte has been supposed to assign, it being his place to take the most favourable view, would he not have allowed a greater time to elapse between the appearances of the two minor columns before Verona and Legnago, and his attack on Joubert with the main army? for, as it has been said, the column of Verona did not appear till the 11th, that of Legnago not till the 12th, and Joubert was attacked on the morning of the 13th. If, then, these columns were detached, and thus the main army weakened by 17,000 men on the day of battle, for the purpose of drawing Buonaparte towards the Brenta, would not Alvinzi have allowed them more time to do so? ought not the column of Legnago to have presented itself first? and would it not have been better to have taken for the strategical line of the main army the valley of the Chiese, and the road by Lonato, Castiglione, and Goito, to Mantua, in preference to that by the valley of the Adige and Rivoli?

Alvinzi's plan was, taking the most favourable view of it, viz. that already explained, vicious, if not absurd: for it supposed that Buonaparte, who had already done enough to convince the most sceptical Austrian that he was a master of his trade, would, when already at a distance of more than 200 miles, measuring in a direct line from the nearest point of French ground, with a late enemy just reduced by force of arms to neutrality in his rear, viz. the King of Piedmont, and Southern Italy also hostile, in rear of and on his right flank, and a considerable body of English in Corsica, plunge on still farther towards the Brenta with the mass of his army, when his

army was already out of proportion to the length of his line of operations, and the boldness of its offensive position in pursuit of either or both the two smaller columns, (whose magnitude, too, and object he was almost certain at once to detect,) before he had ascertained to a certainty that the main body of the Austrian army was not descending by either shore of the Lake of Guarda, or by the valley of the Adige, or by the valley of the Chiese, to relieve Wurmser with his 15,000 men in Mantua, manifestly one of Alvinzi's great objects, and at the same time expose his communications as much as possible to the main Austrian army, reinforced by Wurmser's 15,000 men, who would thus, while possessing their own communications with the Tyrol (an Austrian province) free by Castiglione, Lonato, Gavardo, and the Chiese, cut him completely from his primary base of operations, viz. the Maritime Alps, which divide France from Piedmont.

To continue the history of the campaign. When Buonaparte found from Joubert's despatch that the main Austrian army was descending the Adige, it was out of the question to go after the two minor columns, and so suffer the main Army to relieve Mantua and operate on his communications. He had then only the option of raising the siege, and retreating before the Austrians, thus losing the fruits of perhaps the most splendid series of operations ever conducted by any general, a thing out of the question with Buonaparte; or of throwing the mass of his army on the main Austrian army, while he contained the other two columns for a sufficient time, and then returning to them overwhelm them successively in their turn. This was an operation requiring great rapidity and concentration,—qualities without which no brilliant military operation was ever performed; but it was, at the same time to apply the principles of war, to have a due regard for his communications, and throw the mass of his army on fractions of the enemy. The way in which he applied the Principle V., to which the reader is here referred, in order to have a sufficient mass disposable, will appear in the course of the narration. It has been already said that, even if Alvinzi had led his main army down the

valley of the Adige, in a manner in accordance with the principles and maxims of war, Buonaparte would have been obliged to throw the mass of his army on it; but what put the question beyond *any shadow of a doubt* was:

That Joubert's despatch left Buonaparte no doubt but that the main Austrian army was descending the valley of the Adige, and approaching the position of Rivoli, with which Buonaparte was well acquainted, (having in person previously given directions on the spot for some fortifications to be raised at Osteria, see Plan 1,) in 3 separate columns at least, all separated from one another by very sufficiently insurmountable natural obstacles, viz. the Mount Magnone and the Adige; (see for the rest of the account of the battle of Rivoli, the plan of the battle, Plan 1;) and that if he could occupy the position of Rivoli before the Austrians arrived, and were no longer separated by those natural obstacles by which they were at present separated, he should have *seized an opportunity of attacking the enemy at a time when his columns were separated from one another by very sufficiently insurmountable physical obstacles, and would in all probability be enabled to overwhelm them successively, and would also have anticipated the enemy at a point of concentration; while it was very probable that the enemy's columns would not arrive simultaneously on the field of battle.*

Buonaparte makes the following dispositions:—

He instantly sends orders to Joubert, to maintain himself, at all cost, *in advance of Rivoli*, or at least in the position of Rivoli, till his arriyal with the division Massena.

At the same time, he sends orders to Rey to hasten by Salo to Rivoli to join Joubert.

He orders 2,000 of the division Massena to entrench themselves in Verona, and prevent the passage of the Adige at that place, to observe as well as may be the column of 7,000 directed on Verona, and cooperate with the division Augereau.

He orders the division Augereau to defend the passage of the Adige generally against the column of 10,000, and notably the bridge at Legnago.

He leaves the care of the investment of Mantua,—for it

was not strictly speaking a siege, Buonaparte having no siege artillery,—to the division Serrurier, 10,000 strong, and occupying fortified posts in the suburbs, which he had previously had the care to construct, the principal of which were those of St. George, St. Antony, and La Favorite. These detached fortified posts afford a good example of lines of circumvallation and contravallation properly constructed, and served the double purpose of preventing any succouring army from relieving Mantua by attacking the besiegers, and of keeping Wurmser in the fortress.

He orders the remaining 10,000 of the division Massena to hasten by forced marches to Rivoli to join Joubert.

He himself instantly hastens to Rivoli to take the command in person.

To consider these dispositions :—

We see that the two columns, directed respectively on Verona and Legnago, and together containing 17,000, were to be contained or held in check by the 8,000 in the division Augereau, and the 2,000 detached from the division Massena, *i.e.* by 10,000, these latter profiting by the fortifications at Verona and Legnago, and the river Adige, a large natural obstacle; and herein is an application of the Principle V., to which the reader is referred; and on another part of the tactical front the 10,000 under Serrurier were blocking the 15,000 in Mantua,—a power they possessed in consequence of Mantua being one of those fortresses spoken of in the author's elementary treatise on Strategy, as being such as to be more favourable by the nature of their outlets for preventing a sortie than for making one; so that a smaller number of men, profiting by the nature of the outlets, can blockade a greater number within the walls. This blockade of Wurmser in Mantua, by the division Serrurier, was also an application of Principle V.; so that on the whole there are 20,000 French neutralizing 32,000 Austrians, by applying the Principle V., while the remainder are rapidly concentrating to strike the decisive blow, and apply at the same time most excellently other principles of tactics on the field of Rivoli.

Jan. 13th.—In the night of this day, Joubert receives the order of Buonaparte while in full retreat; and having already quitted the position of Rivoli, returns and occupies that position.

At Buonaparte's arrival at Rivoli about midnight, the moon shone beautifully, and the enemy's night fires reflected on the white mountains, discovered four separate camps,—one to the west of Mount Baldo.

The enemy, then, was not approaching in three columns, separated by very sufficiently insurmountable natural obstacles, viz. the Mount Magnone and the Adige, but in four, separated by the three very sufficiently insurmountable obstacles, Mount Magnone, Mount Baldo, and the Adige.

The column which was on the left bank of the Adige, or on the opposite bank to Rivoli, was commanded by Wukassowich, and composed of 6,000 men.

That which was between the Adige and the Mount Magnone was composed of 10,000 men, commanded by Quasdanowich, and with this was the greater part of the artillery and cavalry.

That which was between Mount Magnone and Mount Baldo was commanded by Alvinzi himself, and composed of 12,000.

That which was on the farther side of Mount Baldo was composed of 4,000, commanded by Lusignan.

Buonaparte, on discovering that the enemy is in four fractions so situated, makes the following dispositions:—

A demi-brigade of the division Joubert is to defend the entrenchments of Osteria, which, as it has been said, Buonaparte had previously directed to be raised, and which are indicated on the plan by a black mark drawn from the village to the Adige.

The division Massena had the order sent to it to detach a demi-brigade, to contain, or rather hinder and impede Lusignan, as far as possible, profiting by obstacles.

The Adige itself was containing Wukassowich.

Buonaparte determines to attack Alvinzi, who, it will be remembered, had brought down his column between Mount Magnone and Mount Baldo, with the remainder of the

division Joubert, so soon as Massena's arrival should allow him time to use that general's division to support Joubert's.

On the death-bed of St. Helena the Emperor bestowed a gold repeating watch on a faithful servant, with these words:—"It sounded two o'clock at Rivoli when I gave Joubert the order to attack." That was the morning of January 14th, 1797.

It is needless to point out how these dispositions contain a brilliant application of the Principle V.

Buonaparte's object in attacking Alvinzi, so soon as Massena's advance ensured his cooperation, was that time was in fact in great part containing Lusignan, and he was not aware whether Lusignan had 4,000 or 8,000, and the demi-brigade, without the aid of time, would not be able to contain him on either supposition; time, too, was in part containing Quasdanowich, for if he persevered, he was sure to force the entrenchments of Osteria against a demi-brigade.

At or about two o'clock, then, of the morning, Joubert advanced from a position he had taken up on the hill *a*, and between that hill and the next to it towards Mount Baldo, to attack Alvinzi, and retake possession of St. Giovanni, the village which will be seen in the plan near the junction of the two rivulets. Then the bodies of men, marked light yellow on the plan, represent Alvinzi in line of battle, in the position he was when Joubert marched forward to attack him, his left resting on the village of St. Giovanni, a tactical pivot, and the remaining three fractions of the Austrians moving forward in columns, endeavouring to cooperate with and come to the assistance of Alvinzi, to defeat the French. The way in which the four fractions of the Austrians were separated from one another by the Mount Baldo, the Mount Magnone, and the Adige, will at once be seen from the plan. It may be remarked, as is perhaps, however, sufficiently clear from the plan, that Quasdanowich descending between the Adige and Mount Magnone, has to pass through a defile at Osteria, across which defile the entrenchments had been constructed, before he could cooperate with Alvinzi, so that, supposing him to have forced the entrenchments, he would still have

to traverse a portion of the defile which might be enfiladed by a battery.

The battle began hotly between Alvinzi and Joubert. Joubert's line had been strengthened on the right, and was weakest on the left, both because it was necessary to keep Alvinzi away from the outlet or *débouché* of the defile of Osteria, that he might not liberate Quasdanowich, and also that succour might more promptly arrive to the demi-brigade defending the entrenchments. Joubert's left fell back before Alvinzi; the right, seeing the left fall back, fell back as well, but the 14th regiment of the line, containing 3 battalions and about 2,000 men, sustained itself admirably in the centre, and gained time for the arrival of Massena's division. Buonaparte hastens to the left, and supports it and the centre by Massena's division as it arrives. The Austrians are in consequence driven back on their right and centre; but their left, still advancing, presses hard on the French right, which had been weakened by detachments sent to assist in containing Quasdanowich. At this moment the column of Quasdanowich having forced the entrenchments, continues its course through the defile, and begins to debouche from it in face of the artillery, infantry, and cavalry, part detached from the right of Joubert and part belonging to Massena's division, destined to receive it.

The bodies coloured dark yellow in the plan, represent the Austrians at this moment. Alvinzi's right and centre are yielding, his left still advancing. Quasdanowich is endeavouring to debouche from the defile, in face of a battery and the infantry and cavalry destined to receive him. Vicassowich, on the further bank of the Adige, is endeavouring to protect by his fire across the river the deployment of the head of Quasdanowich's column. Lusignan, who, instead of applying the Principle I., and acting on interior tactical lines as far as lay in his power, by marching instantly, as soon as he got clear of Mount Baldo, to join with Alvinzi and attack the left flank of the French, in accordance with Principle III. Particular Case 11, followed the dotted line in plan, in order, perhaps, to surround the French tactically, thus assuming a very ex-

terior tactical line in placing himself in position on the hill in rear of Rivoli. The bodies of men marked dark red are the French at the same moment, the left and centre advancing, the right yielding. The fraction of the French army destined to the purpose is attacking the head of Quasdanowich's column. The demi-brigade which has done all in its power to stop Lusignan, is holding the town of Rivoli, to stop him if he advance as long as it is able. The red column near the village through which Lusignan's tactical line passes is the division Rey coming from Desenzano, marching with all speed to Rivoli, in consequence of Buonaparte's order, and now menacing the rear of Lusignan.

Raked by a battery enfilading the defile as it advanced, the head of the column, as it debouched from the defile, was attacked in either flank by infantry, a brilliant charge of cavalry was made *à propos* upon it, and the battery still firing into the defile, a howitzer shell exploded an ammunition carriage in the centre of it. At this moment confusion and terror were at their height, and the whole column, infantry, cavalry, and artillery, huddled together, fled *pèle-mêle* to Preabocco. Quasdanowich being disposed of, the left of Alvinzi was now vigorously attacked by the forces now become newly disposable, and as it had pressed on too hotly, suffered severely; and at this moment a singularly effective and destructive charge made by two small squadrons of cavalry on the left of Alvinzi affords a remarkable example of the efficacy of a small troop lanced very *à propos*. The confusion in the left of Alvinzi, which was brought to its height by this remarkable charge of cavalry, communicated itself to the already yielding centre and right, and the whole in confusion fled behind the Tasso.

A brigade with a battery of twelve-pounders is now detached to join the demi-brigade at Rivoli, and advance to attack Lusignan, who had no artillery, because the road by which he crossed the mountains was judged impassable for that arm by the Austrian General. At the same time, Rey, furnished with his divisional artillery, and who, it will be remembered, had 4,000 men, deploys in line of battle in Lusignan's rear. That General escapes with 300

to 400 cavalry; the remainder of his 4,000 lay down their arms.

January 14th. In the evening after the battle of Rivoli, Buonaparte learned that Provera, whose column of 10,000, it will be remembered, was directed towards Legnago, had succeeded in passing the Adige at Angiazi, a little above Legnago, on the evening of the 13th, Augereau's division being scattered along the river, and that he was marching on Mantua. Buonaparte leaves Joubert and Rey to pursue the remains of Alvinzi, and starts at once that same evening for Mantua with the division Massena, to prevent Provera from raising the siege, and unite with Serrurier and Augereau to overwhelm him.

Jan. 14th.—Provera arrived at Nogara without meeting any obstacle, or being attacked; but in the afternoon, Augereau, having succeeded in uniting the greater part of his division at Angiazi, fell on Provera's rear-guard, to which he did great mischief, and burned the bridge over the Adige, by which he had passed.

Jan. 15th.—Provera arrived before Mantua, and thought to enter the fortress through the suburb of St. George; but it will be remembered that this was one of the posts which Buonaparte had constructed, and he found it entrenched and occupied by Serrurier.

In the evening of this same day Buonaparte with the division Massena arrived at Roverbella.

On this same day Joubert, indefatigable, again attacks Alvinzi, and takes 5,000 prisoners, affording an example to the Principle XLI., and the Maxims XII. and XIV.

Jan. 16th.—Provera tries to force an entrance into the town, by attacking on the side towards the citadel the post of La Favorite, while Wurmser, cooperating with him, attacks the post of St. Antony. Buonaparte arrives during the struggle, sends sufficient support to Serrurier to enable him to maintain himself in the two posts, and with the rest of the division Massena attacks Provera on his right wing. Wurmser repulsed by Serrurier, aided by the reinforcements furnished him by Buonaparte, retires into Mantua; but Provera is attacked by the garrison of St. George on his left, having Serrurier in front, and

being, as it has been said, attacked by Buonaparte on his right with the rest of the division Massena, is overwhelmed. To put the finishing stroke to his misfortunes, Augereau coming from Castellaro in pursuit of him, appearing on his rear, he lays down his arms with 5,000 men.

From Jan. 16 to Feb. 2 the investment of Mantua continues.

Feb. 2d.—Mantua, abandoned to its own resources, capitulates, and 13,000 prisoners, the remains of Wurmser, pass to Trieste to be exchanged.

The results of these operations were as follows:—

30,000 prisoners, *at least.*

26 standards.

350 pieces of artillery, taken inside Mantua.

24 pieces of artillery, taken outside Mantua.

Large reinforcements soon arrived from the Rhine, and the Army of Italy came to number 75,000 men. With these Buonaparte undertook to make the Austrian Emperor tremble in his capital; marched forwards across the Noric Alps, more than 200 miles from the Adige and Mantua, and dictated the terms of the treaty of Campo Formio to the trembling throne of Hapsburg.

The following account of the battle of Dresden, and of the portion of the campaign preceding it, is given in illustration and exemplification of Principle I., Case 2; Principle II., Cases 2, 3, 5; Principle III., Case 3; and of Principles V., X., XVIII., XXIV., XXXVIII., XLVI.; and of the Determination of the Decisive Point of a field of battle.

Aug. 15th, 1813.—The armistice which preceded the campaign in which the battle of Dresden occurred finished, and hostilities recommenced on the morrow.

The contending parties were, on the one side, Russia, Prussia, Sweden, and Austria; on the other, France. At this time, it may be remarked, Napoleon and France had to sustain the unparalleled efforts of United Europe. In the campaign, a sketch of which is now to be given to

introduce the battle of Dresden, Napoleon was opposed by the united armies of Russia, Prussia, Sweden, and Austria ; while, in the Peninsula, the whole force of Spain, Portugal, and the English army under Wellington, were pressing on his legions.

The strategical positions of the two armies at the commencement of the campaign were as follows :—

ALLIES.

A Russo-Prussian army, 200,000 strong, in the neighbourhood of Schweidnitz.

An Austrian army, 130,000 strong, in Bohemia.

A Russo-Prusso-Swedish army, 120,000 strong, under Bernadotte, in the neighbourhood of Berlin.

An army, 30,000 strong, under Walmoden, was in the neighbourhood of Lubeck and Hambourg, observing Davoust, who was occupying those places.

An Austrian army, 25,000 strong, was in the neighbourhood of Lintz.

FRENCH.

The principal French army, 230,000 strong, was cantoning in a triangle, of which Dresden, Gabel, and Lignitz may be said to be the angular points, and was opposed, by its strategical position, to the Russo-Prussian army, 200,000 strong, in the neighbourhood of Schweidnitz, and the Austrian army, 130,000 strong, in Bohemia.

A French army, 70,000 strong, under Oudinot, was in the neighbourhood of Dahme, on the road from Torgau to Berlin, opposed to the Russo-Prusso-Swedish army of 120,000, under Bernadotte.

Davoust, with 30,000, was occupying Hambourg and Lubeck, opposed to Walmoden's army of 30,000, which was observing him.

A Bavarian army of 25,000 was at Munich, and opposed to the Austrian army at Lintz, which it was observing.

A French army, 20,000 strong, under Augereau, was in the neighbourhood of Wurtzberg and Bamberg, sustaining, or rather, as Jomini says, containing, the Bavarian army of 25,000 at Munich ; for Napoleon's allies, whom, before his reverses commenced, he had loaded with advantages,

were already vacillating and untrustworthy, and the time was scarcely two months distant, when before Leipzig, in the middle of the battle, 40,000 Saxons were to pass over to the enemy, leave an unexpected gap in the French line, and turn their guns upon men who had for years been their faithful allies and comrades; and thus not only diminishing the number of Napoleon's army by 40,000, and augmenting that of the Allies by 40,000, so increasing the disparity of numbers by 80,000, but necessarily *ruining dispositions made on the supposition of their fidelity*, and executing the blackest and most profound act of treachery which the military annals of the whole world can produce.

Hence the total number of these allied armies prepared to take the field was 505,000, and according to Jomini they were furnished with 1,800 pieces of artillery.

Obs.—There were besides these armies, the garrisons of the fortresses, the militias, and irregular troops. The English furnished money and arms. They sent field-batteries, with the men to work them, to Bernadotte, and companies organised and instructed to use congreve rockets, also the park of siege artillery which was used at the siege of Glogau, and 400,000 muskets and 100,000 sabres to put forward the armament of Germany. Jomini, giving as his authority an official statement drawn up by the Prussian Colonel Plotto, asserts that the whole force of the Allies, regular and irregular, amounted to the astonishing number of 810,000. Never were such gigantic efforts made to put an end to the dynasty of any man—a dynasty afterwards twice re-established; the first time by a single march, the second by a trifling skirmish and a few discharges of grape on the Italian Boulevards, and at present existing, ratified by the universal suffrage of France.

Hence, also, the total number of the French armies out of France, prepared to take the field in this campaign, was 350,000, not including the Bavarian army of 25,000; for if these are to be counted on either side, they might more correctly be counted on the side of the Allies. These French armies were furnished with 1,250 pieces of artil-

lery. Besides these armies, there were the garrisons of the places, and corps protecting the communications; and the total number of the French employed out of France in this campaign might be about 410,000.

To compensate to an extent for his numerical inferiority, and inferiority in artillery, Napoleon possessed all the Fortresses and *Têtes-de-Pont* on the Elbe and Oder, north of a line drawn east and west through Theresienstadt, while the Allies had no single fortified point of passage on either river. Napoleon's primary base of operations was of course the Rhine; his second, the Elbe; his third, the Oder.

On the Elbe he possessed—

A very good *tête-de-pont* and fort at Koenigstein, the most southerly fortified point of passage he possessed.

Small entrenched camp at Pirna.

Entrenched camp at Dresden, forming a *tête-de-pont*.

Torgau, Wittenberg, Magdeberg, and Hambourg, all fortresses and *têtes-de-pont*.

On the Oder he possessed, beginning from the south—

Glogau, Kustrin, Stettin, all fortresses and *têtes-de-pont*.

Dresden was the large southern *tête-de-pont* on the Elbe, and therefore a strategical decisive point of the very highest importance, and it is necessary to explain in what state it was. In 1810 the King of Saxony began to demolish the fortifications of Dresden, because he thought it very inconvenient to have a fortified capital. Napoleon had during the armistice partially repaired it, and built round the town, encircling the suburbs, 13 redoubts, 8 on the left bank, and 5 on the right, so that Dresden was a great *tête-de-pont*, formed by a large entrenched camp, and having a very imperfect old and partly destroyed fortress for *réduit*. Occupied by an army proportionate to its extent, Dresden was impregnable, but by a garrison only, or even three divisions, about 25,000 men, "might be carried by the assault of an army of 100,000 in a few hours," at least so said St. Cyr, such was the report of the officer of ordnance, Gourgeaud, whom Napoleon sent to report on the subject, and so thought the Allies. It may be remarked, again, that the direction of the French lines

of operation manifestly rendered Dresden during this campaign a strategical decisive point of the very highest importance; no decisive strategical point ever, perhaps, possessed more importance than Dresden did in this campaign.

The Allies' plan of operations for the campaign was arranged at a diplomatic and military conference at Trachenberg, and was—

1. That 100,000 Russo-Prussians, under Barclay, should leave what was before the main army in the neighbourhood of Schweidnitz, cross Bohemia, join the Austrian army of 130,000 in Bohemia, and together crossing the mountains which form the northern boundary of Bohemia, by the three roads of Toplitz, Marienberg, and Newstadt, descend and operate on the left bank of the Elbe.

2. That in order to avoid reverses on the secondary points, Blucher, who was to command the remaining 100,000 of the main army which was about Schweidnitz, and Bernadotte with his 120,000, should not accept battle when Napoleon himself with the mass of his forces attacked them, but retreat before him, and as soon as Napoleon should not be before them, they should then take the offensive.

This plan of the Allies was a very good one. It applied the principles of Strategy, by operating, as far as possible, on Napoleon's communications, by means of the base of operations formed by the mountains, which are the northern boundary of Bohemia and Moravia, and which was for the Allies in the position of the contending parties a base of one of the most favourable kinds, as explained in the writer's Elementary Treatise on Strategy, and which may be called a parallel and perpendicular base, because such bases are always approximately parallel to the enemy's line of operation, and perpendicular to one's own, that being, in fact, a definition of them. As well it obliged Napoleon to attack the mass of the Allies, because the mass was thus made to operate, as far as possible, on his communications, and it prevented him from applying the Principle III., by throwing his mass on either of the inferior armies, because the mass of the Allies menaced so

much his communications, that he dared not pursue either Blucher or Bernadotte far; and their orders were to retreat ever so far if menaced without accepting battle: and by retaking the offensive when Napoleon was not before them, they would reconquer the country, and it was hoped and expected would apply Principle III. at the same time.

Aug. 12th.—The 100,000 Russo-Prussians, under Barclay, commenced moving from Schweidnitz, though the Armistice did not allow such commencement till the 15th, and in this proceeding they cannot be accused of inconsistency in point of keeping good faith.

Aug. 15th.—Napoleon leaves Dresden and arrives at Zittau.

Aug. 16th.—Blucher, who remained at Silesia with 10,000, seizes on Breslau, and advances towards the Katsbach. The French troops in Silesia are on this day obliged to raise their cantonments, and retire behind the Bober.

Aug. 17th.—Napoleon having made an armed reconnaissance into Bohemia, learns the march of the 100,000 under Barclay through that country to join the Austrian army.

This same day he learns the advance of the remaining 100,000 under Blucher.

And that the army which has now become the main army of the Allies is descending the Elbe, but on which bank they intend to operate he does not learn.

Napoleon in consequence makes the following dispositions:—

St. Cyr, with three divisions, about 24,000 men, remained in Dresden.

Vandame, with three divisions, about 29,000, remained on the road from Gabel to Bautzen.

Poniatowski, on the road from Gabel to Gorlitz, with three divisions, about 20,000.

Bellune around Zittau, with 18,000.

Napoleon himself with his mass, in number 140,000, marches rapidly to attack Blucher, endeavouring to apply the Principle III.

Aug. 21st.—Napoleon crosses the Bober.

Blucher retreats to Jauer, refusing battle, according to the plan.

Napoleon leaves Mackdonald with 80,000 to observe him, and with the remaining 60,000 commences his return to the rest of the army under Vandame, Poniatowski, and Bellune, about Zittau and Gorlitz.

On this day the Russo-Prusso-Austrian army, in number 230,000, crosses the mountains which bound Bohemia on the north by the three roads, or, more properly speaking, by four, for Schwartzenberg got some of his Austrians out towards Aëgra for no particular reason.

Aug. 23d.—Oudinot is beaten in an indecisive and partial battle by Bernadotte near Gros-Beeren.

Aug. 24th.—Napoleon joins the army about Zittau and Gorlitz with his 60,000 men.

Napoleon hesitates whether he should march to the protection of Dresden, or whether he should employ the Elbe, which, supposing Dresden could hold out, would be for him a base of operations of one of the most advantageous kinds; viz. a parallel and perpendicular base, because parallel to the enemy's line of operations when descending the left bank of the Elbe, and perpendicular to his own, and operate from that extremity of it towards the enemy's base by marching on Prague by Jung Bunslau. He would perhaps have done this, if he could have been sure that the Allies would not march on and be able to take Dresden, as appears from his instructions to Mackdonald, for in that case he had perhaps greater advantages in operating on their communications than they on his. By marching on Prague, he would have seized immense stores of provisions, arms, and ammunition, and might change his line of operations, taking the Danube as a new base, in accordance with Principle II. Case 3, and thus compel the Allies to operate in the northern part of the theatre of war, in which he held all the most important decisive strategical points, viz. his fortress-*têtes-de-ponts* on the Elbe and Oder, and where, in case of defeat, their destruction was inevitable. Such a proceeding would, too, produce a good *mental* and *psychical* effect (*i.e.* what is

usually termed *moral* effect; why is not known, for the effect is in appearance neither moral, nor the contrary, immoral) on Europe. On the other hand, in case he should march on Prague, and the Allies should take Dresden, and then return and beat him, Mackdonald, who was before Blucher, and the garrisons of the Oder would be lost, and Oudinot and the garrisons of the Elbe would hardly extricate themselves. Nor does his disposable mass appear sufficiently great for the operation; many of the troops were newly levied, and his inferiority in cavalry was very marked.

Aug. 25th.—Barclay, with his Russo-Prussians, who formed the right of the Allies, and had crossed the mountains by the road of Peterswold, arrived before Dresden in the morning. He had then taken four days to march the thirty miles between Hollendorf and Dresden; for the Allies, thanks to the immense efforts Schwartzenberg had made to obtain information, in accordance with Principle XXIV., were, till the morning of the 25th, perfectly ignorant that Napoleon had ever marched towards the Bober, and been 120 miles away from Dresden, and in consequence they had proceeded very slowly, and been very prudent and careful indeed, for they had, ever since the 21st, expected Napoleon to turn up somewhere and attack them. Though Napoleon's march to the Bober was in part within musket-shot of the Austrian frontier, full of custom-house officers, forest-guards, keepers, &c. such was Schwartzenberg's opinion as to the importance of correct information in war, and such the excellence and extent of the organisation he directed as commander-in-chief of the Allies for the purpose of obtaining it, that it was only on the morning of the 25th that the Allies heard, by a despatch from Blucher, that on the 21st Napoleon was with the mass of his army pressing him hard near Goldberg.

On this day, then, the sovereigns of Russia and Prussia, Schwartzenberg, &c., united at ten o'clock in the morning on the heights of Ræknitz, three miles from Dresden, had to decide on what they should do, they having, as it has been said, a few hours previously learned that

Napoleon was absent from Dresden. The Allies had passed through Dresden a few months before, and knew that the fortifications were in great part demolished.

Jomini says that at this time two courses were open to the Allies :—

1. To take up a position on the heights of Dippodiswald, with the right of the line strongest, and the line extending to Gieshibel, a position about nine miles in length, running nearly east and west, and lying to the east of Dippodiswald; and thus by taking up a position analogous to that of the Russian army at Tarontina, menacing the French line of retreat from Moscow, oblige Napoleon to come and attack them in that strong position.

2. To endeavour to take Dresden by assault before Napoleon returned, and while its care was still committed to a garrison disproportionate to its size.

At the time the Allied Sovereigns and their Generalissimo Schwartzzenberg had, on the heights of Ræknitz, to determine what course they should pursue, two of St. Cyr's divisions were deployed in line of battle between the Gros Garten and the road to Dippodiswald, outside the entrenched camp, and with their backs turned to it, contrary to the Principle X. Here was then a good opportunity ; and a Russian General* proposed to attack at once, and take the town by assault, instancing the example of Lubeck, which the French had taken under similar circumstances, and not pushed on by aught resembling the advantages success in this case would confer, and stating that little could be lost in the attempt, and success would confer immense advantages. All except Schwartzzenberg agreed to this, and were willing at once to make the attack ; but though he agreed that the attack should be made, he overruled the matter, stating that it was best to wait for the Austrian army he was bringing by very bad roads, when he might have brought them by good ones, before making it, and put off the attack till four o'clock of the 26th, notwithstanding the opportunity St. Cyr's error presented, and unmindful of Principle XLVI., for thirty good hours, before a man decidedly

* Jomini, Aide-de-Camp to the Emperor Alexander.

superior to Cæsar in rapidity, on the showing of this latter, and not inferior to Hannibal in genius. Such were Schwartzenberg's notions of the value of hours in war.

On this same day, during the whole of which Schwartzenberg is keeping 100,000 men idle before a large entrenched camp occupied by 24,000 men, 16,000 of whom had come out of their fortifications, as if to ask him to overwhelm them, and entering *péle-méle* with them, take possession of the place, in the belief that 24,000 men can defend five miles of field fortifications so that it shall be impregnable on all points to an army of 100,000 men, Napoleon determines to march to the defence of Dresden, in consequence of St. Cyr's representations, that if the Allies attacked seriously he should be lost, and those of the ordnance officer Gourgaud he sent to bring him information on the matter.

Aug. 26th.—The Allied army, quietly waiting for Schwartzenberg's magic hour,—for four o'clock in the *afternoon* can hardly be supposed to be a military hour for an assault of this kind,—though already considerably augmented by the Austrians as they arrived, discovered, about one o'clock in the afternoon, by the sight of Napoleon's columns, which were rapidly descending the right bank of the Elbe, and beginning to cannonade their right across the river, near Striesen, three miles from Dresden, that he was arriving with the mass of his forces.

At two o'clock Napoleon's advanced guard is rapidly entering Dresden.

The Emperor Alexander, as soon as he knew, about one o'clock, of the return of Napoleon, (whose columns, as it has been said, began to enter Dresden about two o'clock,) and all others, saw and exclaimed against the absurdity of attacking Dresden after Napoleon had entered it and it had become an entrenched camp garrisoned by an army proportionate to its extent. Schwartzenberg apparently assented, but with the most extraordinary folly violated the Principle XVIII., to apply which properly under the circumstances he had only to take up the position already spoken of at Dippodiswald, determined he would pretend to forget, or delay till too late to countermand the orders

he had sent for attacking the place at four o'clock, and let the attack, now manifestly ridiculous and absurd, take place at that hour precisely. Precisely as the cathedral clock struck four, 120,000 men attacked the entrenched camp, to the great astonishment of every one except Schwartzenberg and those in his confidence.

St. Cyr had recognised his fault in not profiting by all the advantages the fortifications conferred upon him ; his divisions were no longer outside the camp, but the columns of attack placed between the redoubts were ready to assail the enemy as soon as he should feel the effects of the fire from the works, and the battalions deployed in line between the works. The two divisions had been withdrawn into the camp the evening of the 25th.

There is nothing interesting in this extraordinary attack. It was made equally along the greater part of the circular frontage presented by the camp south of the Elbe. To attack with 120,000 when the camp was defended by 24,000, of which 16,000 had come out of the camp, was one thing ; to attack with 120,000 when properly defended by Napoleon with 60,000, rapidly increasing to 80,000, was another. The attack failed eminently, and the Allies retired with considerable loss. In the course of the night Napoleon was joined by the rest of his army, and on the morrow there were 110,000 French in Dresden.

Aug. 26th.—Napoleon sends orders to Vandamme to make a demonstration of debouching from Koenigstein on the 27th, in the hopes of furnishing the enemy with an additional inducement to retire by that artifice, and free his communications with France, which their position before Dresden, and the existence of the parallel and perpendicular base forming the northern boundary of Bohemia, menaced too much ; and as well that, in case the Allies were defeated before Dresden, he might be at hand to impede or stop up their easiest, largest, and most important line of retreat.

The portion of the circle passing through the eight redoubts on the south of Dresden, *i.e.* on the left bank of the Elbe, and the side menaced by the Allies, was about concentric with the arc passing through the old *enceinte* of

the place, and at about one mile distant from it. (See plan of the battle, Plan 2.)

Aug. 27th.—On the morning of this day the line of the Allies was formed on a curve round Dresden, the left from the Elbe below the town to the precipitous ravine of Plauen, at a distance of about two miles from the arc of the circle through the redoubts, and the rest of the line, its curvature at first rapidly diminishing and afterwards gradually increasing as it receded from the ravine of Plauen, finished at about one mile from the Elbe above the town, and three and a half miles from the same arc of the circle through the redoubts. It is to be remembered that strategical reasons already induced Napoleon to wish a battle, in order to free his communications.

Then the first thing which strikes the eye, in considering the Allies' position, is the precipitous ravine of Plauen (see PRIN. I. *Case 2*), dividing the left from the centre and right. (See Plan 2.) The second thing, that the village of Plauen is a decisive tactical point, (see Definition 4,) for that if it can be taken possession of, or even if an active attack be made and sustained on that point, then the only point is closed by which troops could pass with sufficient quickness from the centre to cooperate with and support the isolated left. This decisive tactical point (and it may be noticed that a decisive tactical point is a different thing from the decisive point of a field of battle, as appears at once from their definitions, *q. v.*) may therefore be said to be the key of the precipitous ravine of Plauen.

The Allies' line of battle, as it appeared to Napoleon on the morning of the 27th, is approximately represented in the Plan, and painted yellow.

The left, between the precipitous ravine of Plauen and the Elbe below the town, was composed of three divisions of infantry and one of cavalry, in number about 26,000 men. Schwartzenberg, contrary to the advice of all, had placed them there for the following reasons which he alleged, "That they were directly closing Napoleon's communications, and that they were there to facilitate the junction of Klénau, who was to arrive by the road from Freyberg with 25,000 men in the evening or the next

day." From the ravine of Plauen towards the right, the Allies' line of battle extended about 6 miles. From the ravine to the three villages inserted on the plan, and, according to the conventions agreed upon for making the plans, and placed in a table just before the plans, painted dark brown, the line was very strongly formed, as may be judged from the fact that it contained about 125,000 men, of whom about 28,000 were cavalry, comprising among them not less than six divisions of cuirassiers. Beyond these villages the line, much weaker, extended about two miles in a direction advancing towards Dresden, and this portion contained about 24,000 men. Having, then, already pointed out that the first thing which would strike any one acquainted with the principles of tactics, in considering the Allies' position, was the precipitous ravine of Plauen, and that village itself the key of the ravine; and the shape of the line, and numbers occupying the different portions of it having been stated; it now remains, by aid of the skeleton plan and verbal description, to put the reader in possession of the remaining essential portions of the Allies' position. The enclosure around the letter D in plan indicates the position of the dilapidated and in great part destroyed *enceinte* of Dresden. The redoubts are inserted in the plan, around this, at about a mile distant. The village of Plauen, and the precipitous ravine of which it is the key, are also introduced in plan, and painted according to the conventions, the precipitous slopes of the ravine being painted light brown.

As to the ground occupied by the centre of the Allies:—From the ravine of Plauen to the three villages which are inserted in the plan, the Allies' line extended about four miles along a very strong position, formed by a ridge of hills called the heights of Ræknitz. This portion must be spoken of as the centre, and the right of it rested on the three villages and eastern slopes of the heights, the left on the ravine of Plauen.

As to the ground occupied by the left:—The portion of the Allies' tactical front between the ravine and the Elbe below the town, was better than the opposing portion of the French tactical front: but the left of the Allies, from

Plauen to the Elbe below the town, could barely be said to have a position at all.

The right, extending for about two miles beyond the three villages, was on weak ground, without undulations.

Having, then, given the essential features of the Allies' position, and the way in which their line, as regards its strength on the different portions of it, was formed on the morning of August 27th, it is now proposed to determine the French offensive decisive point of the field of battle.

Before this, it may be observed that since midnight of the 26th to 27th, torrents of rain had been falling, which still continued, and this, by its effects on the soil and the fire of the infantry, increased very considerably the value of cavalry relatively to infantry.

It appeared certain that, in order to free his communications, Napoleon would soon have to attack the Allies; hence, strategical reasons were influencing his decision to some extent, as it has been said in the chapter on the determination of the decisive point they almost always do, and inducing him to seize an opportunity of taking the offensive, and therefore of choosing an offensive decisive point. It appears at once clear from the five questions given in the chapter on the determination of the decisive point of a field of battle, and the discussion of the subject in the whole of that chapter, that the ground occupied by the portion of the Allies' line between the ravine and the Elbe below the town was the decisive point; for, in attacking on that point alone could a brilliant application of the principles of tactics be made; and in attacking on that point, a fraction of the enemy might be brought into collision with a much greater fraction of the French. (PRIN. III. Case 3.)

To attack on that point was easier than to attack on any other point.

The three divisions of infantry and one of cavalry occupying that point, were directly closing the French communications, and it was a good application of Principle II. Cases 2, 3.

It is quite true that this the French offensive decisive point was not of the very highest order; still, though success

obtained on it would not lead to the great results which success on some offensive decisive points, in some fields of battle, has given,—as, for instance, the heights of Pratzen, which were the French offensive decisive point at Austerlitz,—yet the results which were to be obtained by attacking on it were in compensation certain and success sure. It was quite clear that the heights of Ræknitz, forming a very strong position occupied by 125,000 men, *i.e.* at the rate of 30,000 to a mile, were inattackable for 110,000, who would be obliged to detach about 20,000 at least to contain the Allies' left beyond the ravine, and especially in the state of the ground and weather.

To recapitulate, for the sake of distinctness:—

The Allies' line, as formed on the morning of Aug. 27th, amid torrents of rain, is given in the plan, and painted yellow. The left contained three divisions of infantry and one of cavalry, in all about 26,000 men, occupying three miles of ground, which could barely be called a position; or from 8,000 to 9,000 to a mile. The line from the ravine to the three villages, about four miles in length, and occupying the strong position of Ræknitz, contained about 125,000 men in all, or about 30,000 to a mile, and had among them about 28,000 cavalry; and the right of this portion of the line rested on the three villages, forming three tactical points, and the eastern slopes of the heights. The portion of the line extending beyond the villages contained 24,000, or 12,000 to the mile, and was formed on weak ground.

Having, then, recapitulated the disposition and nature of the Allies' position, before stating Napoleon's dispositions for attacking them, the faults committed by the Generalissimo of the Allies, Prince Schwartzenberg, may be enumerated.

1. Extreme contempt for information, which rendered him absurdly ignorant, under the circumstances, of Napoleon's movements, in opposition to Principle XXIV.

2. Having learned, on the morning of the 25th, that Napoleon was absent from Dresden, which was therefore committed to the care of a small garrison relatively to its size as an entrenched camp, and the garrison being found in the commission of a gross fault in opposition to Prin-

ciple X., and it being decided on, and assented to by himself, that Dresden was in the absence of Napoleon to be attacked, he, in contempt of the Principle XLVI., delayed the attack till four o'clock on the next day, thus deliberately losing thirty hours before Napoleon.

3. When he knew, as early as one o'clock on the 26th, that Napoleon had returned, and that about two o'clock he had begun to enter Dresden, yet, in extreme contempt of Principle XVIII., he at four o'clock attacked an entrenched camp, defended by an army proportionate, and more than proportionate, to its magnitude, when he might have turned the entrenched camp altogether by occupying the position of Dippodiswald, menacing the French communications; and that he did this without having made the requisite preparation to ensure success, having neither the ladders nor fascines necessary to the nature of the assault he meditated, both of which he might most readily have procured.

4. That, having been repulsed in his absurd attack, admitting that the position of Dresden was better for his army than that of Dippodiswald, (though this is not clear,) and not blaming him therefore for remaining before Dresden, he exposed about 26,000 men on his left, beyond the precipitous ravine of Plauen, in opposition to Principle I. Case 2, to all the blows which Napoleon might please to deal them; and that he, moreover, provoked Napoleon to attack them, because they were placed barring the French communications, and this on the pretence that they were to facilitate the junction of 25,000 men under Klénau with the army, who he knew would not arrive before the evening or next day, thus exposing these 26,000 men alone for ten or twelve hours to Napoleon. Neither is it at all clear that this junction was any way put forward by this disposition, for Klénau was coming by the road from Freyberg. If the position of Dresden were occupied at all, he should not have extended his left beyond the precipitous ravine of Plauen.

Aug. 27th.—Napoleon attacked the Allies in the morning. His dispositions for the attack were as follows. He directed five divisions of infantry and Latour Maubourg's

heavy cavalry corps, containing four divisions, on the three divisions of the enemy's infantry and one division of cavalry placed beyond the ravine, directing that the village of Plauen, the decisive tactical point, which was the key of the defile, because the only point by which the left beyond the ravine could receive support, should be seized, or at least attacked with the utmost vigour. Three of the divisions of cavalry were directed towards the centre, and one to turn the extreme left. The line of infantry formed by the five divisions was strongest on its left, in order to seize Plauen and isolate the entire left of the enemy as far as possible, by driving it from the ravine.

From the ravine to the three villages, the corps of Marmont and St. Cyr, with their backs to the entrenched camp, to contain the enemy by repulsing any attacks he might make, and protect *the very numerous artillery which was distributed to contain the enemy along this portion of his line*, and cannonade the enemy's masses on the heights of Ræknitz.

It being impossible to undertake anything against the position of Ræknitz occupied by 125,000 men, the French operations along this portion of their line were confined to a tremendous cannonade to contain the enemy, and render attacks by the Allies along this portion of the French line impossible. It was in this way, viz., by the employment of very powerful batteries to compensate for his numerical inferiority on the portion of the line where he did not intend to strike, that Napoleon applied the Principle V.*

Beyond this Ney, with four divisions of the Young Guard, was to attack the 24,000 men who it has been said continued the Allies' line towards the Elbe above the town on

* There are three principal means by which the enemy may be contained along a portion of his tactical front in accordance with the Principle V. 1. By natural obstacles. 2. By distance or time. 3. By a very augmented fire of artillery. Perhaps the most remarkable example of this latter means is afforded by a battery of 100 pieces of artillery placed together, which Napoleon employed at Wagram to contain the enemy along a portion of his line, by sweeping the plain of Aderklaas, while he attacked on the parts (viz. the centre and left) which seemed good to him. Hence, too, the importance of a very numerous artillery.

the right of the three villages, and advancing towards the town, taking them in flank as far as consistent with his own safety.

These dispositions, as must be expected, appear all that can be desired. It is to be remarked that this is the only battle in which Napoleon attacked on the two wings. This he did consistently with Interior Tactical Lines, because his centre was supported on the entrenched camp.

The position of the French line after Plauen (whose value had not been appreciated by Schwartzenberg, and only imperfectly occupied) had been seized by the French, is painted red in the plan.

All that need be said of the course of the battle now, is that the portion of the Allies' line left of the precipitous ravine of Plauen was taken on its extreme left in flank and reverse by the division of cavalry directed for that purpose; while Murat, who commanded the three divisions directed towards the centre of this isolated left, succeeded in breaking the line shaken by superior numbers of infantry and artillery. The right half of the broken line was driven into the ravine with very great loss; the left half, whose fire was sensibly affected by the violent rain, which never ceased the whole day, pressed upon by Murat's cuirassiers and their horse artillery and almost surrounded, laid down its arms to the number of 10,000. All this time along the centre a tremendous cannonade was going on, and the cavalry of the enemy, in heavy masses to the number of 28,000 behind the centre, suffered considerably from the cannon balls and howitzer shells without being of the slightest use. On the French left Ney advanced and drove back the enemy, who had previously determined if attacked seriously to fall back to the heights of Leibnitz, which formed a *crochet* to the rear with the heights of Ræknitz; and the enemy thus falling back and yielding to the attack, the impetuous Marshal was very near advancing too far, placing the Elbe behind his back, with his flank towards Dresden, and letting the enemy in overwhelming numbers cut him from the rest of his line, and drive him into the river. The Allies did in fact change the front of about one third of their centre, in order to

effect this operation of isolating Ney and driving him into the river, in accordance with Principle II., Case 5, and Principle III., but with the usual confusion when greater attention is not paid to Principle XXXVIII., and there is not a far abler general than Prince Schwartzenberg at the head of an army, though the change of front and everything necessary was executed and success seemed to stare them in the face, this operation was abandoned, no one could tell exactly why. At five o'clock the rain, which had been descending in torrents, increased; both parties had long been drenched, and the Allies, who had learned the passage of Vandamme at Koenigstein, determined on retreating. It must however be observed that they were in part induced to this by Schwartzenberg confessing that the Austrians were in want of ammunition as they had been unable to bring more up; an amusing confession to the Russians and Prussians, who were not almost in their own territory as the Austrians were, and had contrived to bring sufficient. In these two days before Dresden the Allies lost 30,000 men, including the 10,000 prisoners lost beyond the ravine, and a great quantity of artillery left on the field and taken on the left.

In the pursuit they also lost 200 pieces of artillery and ammunition carriages, with an immense number of wagons of different kinds, and a multitude of stragglers and wounded.

The following account of the battle of Albuera is mainly based on the authority of the account of that battle given in Sir W. Napier's "History of the War in the Peninsula and South of France," and is given in illustration of the Principle I. Case 7; the Principle III.; the Principle III. Case 11; the Principles X. XXIV. XXIX. XLV.; the Maxim I.; the Choice of a Field of Battle; and the Determination of the Decisive Point of a Field of Battle.

ANNO DOMINI 1811.

As soon as Soult, then at the head of the army of Andalusia, and charged with the government of that province, heard that Beresford had appeared at Campo Mayor, a short distance north of Badajos, and intended laying

siege to Badajos, he determined to march to the relief of that fortress, and at the same time apply the Principle III. Wellington being absent with the main army near Almeida, 150 miles away.

May 5th.—The battle of Fuentes Onoro, a place near Almeida, was fought between Wellington and Massena, and both sides claimed the Victory.

May 8th.—Beresford's circle of investment around Badajos was completed.

May 10th.—Soult, in accordance with his determination, quitted Seville, with two strong brigades of Infantry, and 3,000 Heavy Dragoons. The brigades were commanded by Godinot and Werlé.

Soult had previously, by again beginning to work at the fortifications of several places in Andalusia, which had been for some time previously suspended, induced Beresford to suppose that, instead of being about to unite his disposable force into an army, and march with it to apply the Principle III., (which it is to be observed is equally a principle of Strategy and Tactics,) take the offensive and relieve Badajos, he was trembling for the safety of his own province. To recommence these fortifications at this time was to do a thing good in itself, and to do it very *à propos*.

May 11th. Soult enters Olalla.

May 12th. Wellington detached the 3d and 7th divisions, and 2d German Hussars, which the French dispositions subsequent to the battle of Fuentes Onoro had left disposable, and sent them to Beresford. He placed the rest of his army on the Avaza to oppose the army of Marmont, near Salamanca.

Before this day the news of the battle of Fuentes Onoro was known both to Soult and Beresford. Soult has an additional inducement to hasten a battle, because he might expect that in consequence of the French affairs and dispositions after the battle of Fuentes Onoro reinforcements for Beresford would most probably arrive on the Guadiana, so that by attacking as soon as possible, before the reinforcements could arrive, he would be making a further application of Principle III.

Beresford raises the siege of Badajos in consequence of his information as to Soult's advance.

May 13th.—Beresford and the Spanish Generals hold a conference at Valverde, and agree to receive battle in the position of Albuera.

In the night after this day, the artillery was removed from before Badajos.

May 14th.—Soult reached Villa Franca, about thirty miles from Badajos.

May 15th.—Before twelve o'clock all the guns and stores which were before Badajos had been withdrawn to the right bank of the Guadiana; Wellington leaves the Avaza, and starts in all haste for Estremadura, hearing of Soult's advance with a powerful army to take the offensive, and relieve Badajos. Wellington had hitherto been informed by Beresford that Soult was most entirely on the defensive. Before Wellington had arrived, the battle had been fought. The French army is concentrated at Santa Marta, about twenty miles from Badajos, and eight from Albuera. The original force which had started from Seville, had in its march been joined at Olalla and other places by different portions of the French force occupying Andalusia, and destined to form part of the army which was to attack Beresford, defeat him while the main army was in the north of Portugal, and before he could receive reinforcements, and raise the siege of Badajos.

On the morning of this day, the Anglo-Portuguese army occupied the left of the position of Albuera in the following way, the Spanish not having yet arrived. (See Plan 3.)

Alten's German Brigade, painted brown, occupied the village of Albuera, a tactical point in front of the centre of the line of battle.

A battery commanded the bridge.

Behind the village, between the Valverde and Badajos roads, the 2d Division of the British army, formed on one line, occupied the table land forming the crest of the hill, and is painted light red.

On the left of the 2d Division of the British, the Portugese, formed in line of battle on two rows, occupied the crest of the position, and are painted light purple.

The line of battle so formed was about $1\frac{1}{4}$ of a mile in length.

The left of the Albuera ridge, broader and higher than the rest, was left for the Spanish to occupy when they should arrive, because Beresford considered the hill between the Valverde and Badajos roads to be his defensive decisive point of the field of battle.

The Anglo-Portuguese army being then in their line of battle thus formed, which can be readily recognised in the plan by its description, about three o'clock of the afternoon of this day the whole mass of the Allied cavalry, followed closely by the French light horse, came in from Santa Marta.

Beresford, in consequence, constructs a temporary right wing with the Cavalry and Artillery on the ground which the Spaniards were to occupy when they arrived, viz. the ground occupied in plan by the parallelograms which are left unpainted, and are shaded and white at alternate intervals. At this time, that is, after the cavalry had come in, there were of the Allies 16,000 men in line of battle.

Beresford sends officers to hasten Blake's movements, but that general, though he had promised to be in line at twelve o'clock at noon, did not, though he had only a few miles of good road to march, arrive till eleven at night, and his rear not till three o'clock of the morning of the 16th.

Beresford sends at same time to Cole and Madden to come with all haste.

From the time that the mass of the cavalry coming from Santa Marta crossed the Albuera, and formed the temporary right wing, there was not a single man of the Allies on the right bank of the Albuera. Beresford stretched his piquets along the road to Almendral, and the heights on the right bank of the Albuera, which were woody, were abandoned altogether to the enemy. This was contrary to Principle XXIV.

On the evening of this day, (the 15th,) Soult, without hindrance, reconnoitres the Allies' position while his army is arriving behind the hills and woods on the right bank of the Albuera.

This is then the place where the configuration of the position and field of battle chosen by the Allies has with the assistance of the plan to be put before the reader, and their choice of a field of battle discussed in exemplification of Chapter III.

1st.—To put the position and field of battle before the reader.

The Albuera position (see Plan 3) is formed by a ridge of hills, about five miles in length, lying between the Rivers Albuera and Aroya.

The slopes of the position are easy, and suited to the operations of cavalry and artillery.

The table land on the crest of the ridge of hills on the wing of the ridge towards Almendral, is broader than the table land on the crest at any other part of the ridge, (see plan,) and is not less than three quarters of a mile in breadth. This same table land on the wing of the ridge towards Almendral is also higher than any other part of the ridge, a slope separating it from the adjacent table land occupied first by the temporary right wing of the Allies, formed of cavalry and artillery, and afterwards by the Spanish when they arrived.

The river Albuera and the Feria rivulet are both everywhere fordable in all parts of them which are represented in the plan; that is, in all parts of them which have to do with the field of battle. Attention has to be called to the hill running up into the angle between the Albuera and Feria rivulet and the woody heights on the right banks of the Albuera and Feria.

The Allies' only line of retreat was by the Valverde road, which runs across the ridge on the right of the 2d British Division. Through this the only line of retreat lies at first, as it leaves the ridge behind the centre of the Allies, yet an early change in its direction brings it soon in rear of the broad table land on the wing of the ridge towards Almendral. The remaining features are the bridge, whose position is indicated by the road to Santa Marta, which passes over it; and the village of Albuera, the only tactical pivot the position of the Allies possessed.

The Allies, though as it has been said they had de-

terminated on the 13th to receive battle in the position of Albuera, had neglected to raise a single field-work to protect their flanks or otherwise strengthen their position; a culpable neglect of Principle X.

Next, to consider the excellence of the field of battle chosen by the Allies, by means of and in exemplification to Chapter III.

Referring to that Chapter, it will be seen that regard being paid to the two preceding premises there stated, there are 12 principal requirements in a good field of battle, on the supposition of an approximate equality of each of the three arms in both armies; and these are followed by 3 principal modifications in the case of a superiority of each of the three arms in either army. Let the field of battle chosen by the Allies be considered in conjunction with each of the 12 requirements and each of the 3 modifications taken in order.

Referring to the requirements in Chapter III.

Requirement 1. Allies' field of battle satisfactory.

Req. 2. Admitting that in consequence of the existence of the Albuera this requirement is moderately though anything but markedly satisfied, supposing the French to assume every other of the tactical fronts they might assume in order to attack the Allies, yet, supposing it practicable for them to form their line of battle across the broadest part of the table land on the wing of the ridge towards Almendral, perpendicular to the Allies' line of battle, which table land was not less than three quarters of a mile wide, and the highest part of the ridge, separated from the table land, occupied first by the temporary right wing of cavalry and artillery and afterwards by the Spanish, by a slope, and would with its slopes and the plain of the Aroya admit the formation of a line of battle two and a half miles long, and thus assume a tactical front in order to engage the Allies, the requirement would in this case be wholly unsatisfied.

Req. 3. If the French attack in front, the requirement is satisfied; if they attack simultaneously on the centre and one wing, in accordance with Principle I. Case 7, the requirement is satisfied better if the French choose the left wing than the right: but if they form their line of

battle perpendicular to the Allies' beyond its right flank across the broadest part of the table land in the way spoken of above, then the French, being on the highest ground of all, could see every movement made by the Allies along the rear of their position, while the French movements along their rear would be concealed; and certainly the first thing which would strike an enemy wishing to attack the Allies' line of battle would be the existence of the position above spoken of, along which he ought, if practicable, to form his line of battle perpendicular to their right flank, before they could execute a change of front and dispositions, a position too which, with a singular absence of foresight, they had evidently from their manner of occupying the position of Albuera paid no attention to.

Req. 4. Beresford having, on the afternoon of the 15th, retired entirely to the left bank of the Albuera, and stretched his piquets along the Almendral road, the hill in the angle of the Albuera and Feria, and the woody heights on the right banks, were such that Beresford "could not see a man nor draw a sound conclusion as to the real plan of attack."* The field of battle then, as far as this requirement is concerned, was most unsatisfactory. It is to be observed here, how much Beresford neglected the Principle XXIV. No man was ever so remarkable as Napoleon for the excellence and frequency of his armed Strategical and Tactical reconnaissances; and no man less frequently abandoned a position or post, if it could be maintained reasonably and he expected that its maintenance would confer valuable information as to the enemy's plans and movements.

Req. 5. The line of retreat by the Valverde road was in itself, in point of size, &c. satisfactory.

Req. 6. It is true that the Allies' single line of retreat, the Valverde road, lay at first, as it left the ridge, *behind the centre and least attackable part* of the Allies' position; but its direction turning, it came to be seriously menaced by the reverse slopes of the *most attackable part*, viz. the broad and high table land beyond the right of the Allies.

* All sentences or paragraphs between inverted commas, in this account of the battle of Albuera, are taken from Sir W. Napier's Peninsular War.

Req. 7. The Allies' army was so slow and cumbrous, from its composition of three different nations, and *one of them Spanish*, relatively to Soult's French, that this requirement, whether satisfactory or not, was of no great moment.

Req. 8. Neither flank had any tactical pivots protecting it. And so far from the right flank having slopes down which artillery might fire in all directions towards the front and flank to the full extent of its range, the right flank rests beneath the foot of a gentle slope at right angles to it, and nearly $1\frac{1}{4}$ mile long, from the top of which artillery might enfilade the line.

Req. 9. Not satisfactory, for the French making their dispositions in secret, which the voluntary abandonment of the hill between the Albuera and Feria enabled them to do, might be in battle perpendicular to the right flank before the necessary counter-movements could be made.

Req. 10. Not satisfactory.

Req. 11. The field of battle possessed one tactical pivot, the village of Albuera; and this was, as all tactical pivots generally are, good; it was, however, so situated that it does not interfere with the enemy's main attack.

Req. 12. Satisfactory, if the French attack in front or on the left flank; very unsatisfactory, if they form their line of battle across the broadest part of table land on right flank.

For the three modifications.

These may be taken together. The Allies were, as they almost invariably were during the whole of the war in the Peninsula, very inferior in cavalry and inferior in artillery both as to weight of metal and number of guns; and as consequently they might have fully expected they would be on this occasion, they ought therefore to have selected a position favourable to infantry, in which their advantage lay, and unfavourable to the manœuvrings of cavalry and artillery, and which therefore possessed the characteristics of configuration recommended under the circumstances (viz. inferiority of cavalry and artillery and superiority of infantry) in Chapter III. As it has been already said, they did, on the contrary, choose a position whose slopes are favourable to the evolutions of cavalry

and artillery. If it be objected,—This might be the best position they could find to fight on; the answer is,—It is generally admitted that it was a gross absurdity to fight at all under the strategical circumstances, so they were not driven to find a position at all.

Also the ridge of Albuera, more than five miles in length, was far too large for a comparatively slow and cumbrous army of some 35,000 men, for the Allies could hardly expect to put more and did not put so many in line in face of the very active and compact army Soult commanded.

The whole force which Soult knew he could bring up in the course of the evening and night, and with which the battle of Albuera was fought on the morrow, consisted of 19,000 Infantry, 4,000 Cavalry, 40 Guns. The total number of the French was then under 24,000. The Infantry consisted of three divisions. Two of these, containing each about 6,000 men, formed the 5th Corps d'Armée, commanded by Girard. The remaining division consisted of two strong Brigades of about 3,500 men each; the one Brigade commanded by Godinot, the other by Werlé. The heavy Cavalry was commanded by Latour Maubourgh; the Artillery by Rutty.

Soult, having made his reconnaissances on the evening of the 15th, determines that, unless the dispositions of the Allies change in the course of the night,—

1. His offensive decisive point of the field of battle is the wing of the ridge towards Almendral, occupied by the broad and high table land, and extending as far towards Albuera as the middle of the ground or table land which the Spanish line occupied on the morrow, and which Spanish line, formed on two rows, is indicated in the plan by the two unpainted parallelograms shaded and white at intervals.

2. That before attacking, he will place his mass in line of battle across the broadest part of the table land on the Almendral wing of the Albuera ridge, and therefore across the right flank of the Allies' line of battle and perpendicular to it.

3. That under cover of the night, and of the hill running up into the angle between the Albuera and Feria

rivulet and of the woods, he *can* place his army so that the mass can be formed in line of battle in the required position across the right flank of the Allies' line of battle, about twenty minutes after the Allies' would be enabled to judge his manœuvre.

Accordingly, in the course of the night, he disposes his army in the following position ready for the morning, which will readily be learned from the plan and following description :—

Soult's army in this position is coloured *light yellow* in the plan, and the whole French army in this position will therefore be at once recognised by its colour.

It has been said that Soult determined to place his mass behind the hill between the Albuera and Feria. This mass consisted of thirty of his forty guns, the whole 5th Corps d'Armée about 12,000 men, and of Latour Maubourg's heavy cavalry, in all about 15,000 men. The position of the heavy cavalry on the extreme left of the French line, and of the 5th Corps d'Armée behind the hill, will at once be recognised.

Next to the 5th Corps d'Armée, proceeding towards the right along the French line, the Brigade of Werlé was placed on the opposite bank of the Feria; next to this brigade the light cavalry mass; and next, proceeding to the right, the Brigade of Godinot, to which the remaining ten guns were attached. On the right of Godinot, some squadrons of cavalry formed the extreme right and completed the line. The positions of all these will readily be recognised in the plan.

To see what took place in the Allies' lines during the night :—

May 15th.—At eleven o'clock P.M. Blake's Spaniards began to arrive.

May 16th.—At three o'clock A.M. Blake's rear arrived.

Blake's Spaniards formed in line of battle on the table-land allotted them, on the right of the Allies' line.

May 16th.—Between eight and nine o'clock A.M. Cole arrives.

The Spanish with him joined Blake's Spaniards on the right, and the Spanish, now formed in line of battle on two

rows, are indicated in the plan by the two parallelograms alternately dark and shaded.

Two squadrons of Portuguese cavalry which Cole brought joined the rest of Otway's Portuguese cavalry, and were placed in advance of the extreme left, where they may be seen in plan painted light purple.

The principal mass of the Allies' cavalry which had formed the temporary right wing, having ceded the ground it had occupied to the Spanish, was placed behind the centre and near the Valverde-road ; it is painted light red.

Two Brigades of the 4th Division, the one British, and called the Fusileer Brigade, the other Portuguese, were drawn up in columns in rear of the left flank of the 2d Division on the opposite side of the Aroya, and near the Badajos road ; the British Brigade is painted light red, the Portuguese light purple.

The reader is then in possession of the Allies' line of battle, as formed on the morning of May 16th.

This, then, the first position of the Allies' line given in plan, may therefore be readily picked out, for all bodies painted light red in plan are the British in this position, and all bodies painted light purple are the Portuguese in this position, and the alternately white and shaded parallelograms the Spanish, while the brown are Alten's Germans occupying Albuera.

It becomes necessary to explain the colouring adopted in the plan for the troops of the different nations, because the convention in the table preceding the plates gives sufficient instructions only when each of the two armies is composed of a single nation.

The 1st Position of French given is, as it has been said, painted light yellow.

The 2d Position of French is painted dark yellow.

The 1st Position of British, light red ; 2d, dark red ; 3d, dark lake.

The 1st Position of Portuguese, light purple ; 2d, dark purple. It is only necessary to give a 3d Position to one Portuguese Brigade, viz. the Portuguese Brigade of the 4th Division ; the 3d Position of this Brigade is left white.

The 1st Position of Spaniards, unpainted parallelograms,

alternately white and shaded; 2d, parallelograms entirely shaded; 3d, entirely black.

Germans, brown.

The 1st positions of all the Allied nations were contemporaneous, and form one line of battle, and were also contemporaneous with 1st position of the French.

The 2d positions of all the Allied nations may be considered as approximately contemporaneous, and formed a position during the battle, and may be considered as also contemporaneous with the 2d position of the French.

The 3d positions of the British and Spanish were contemporaneous with the 3d position of the Portuguese Brigade above referred to, and with the 2d of the rest of the Portuguese, (for the latter, with the exception of the Brigade, had not moved, while the two former had,) and with the 2d position of the French.

The composition of the Allies' army with which this battle was fought was as follows:—

About 7,000 British Infantry, and 23,000 Infantry, Spanish, Portuguese, and German, in all 30,000 Infantry. From 2,000 to 3,000 Cavalry. Artillery, 38 pieces.

Hence it will be seen, that about 16,000 men had come into line in the course of the night since Soult made his reconnaissance, for it was said there were only 16,000 in line at that time. The total force of the Allies with which the battle was fought was about 34,000 to 35,000.

The Allies' line being, then, thus formed in the 1st position given in plan, between eight and nine o'clock on the morning of May 16th, Soult has to make a new reconnaissance, determine whether the offensive decisive point he had decided on the evening before is still his offensive decisive point; whether his army has, during the night, been well placed, and the plan of attack he had conceived still the best which can be devised. He has also to decide whether his offensive decisive point is a sufficiently good one, the Allies being found in as bad a position as he could hope to place them in the time which Strategical Reasons allow him, by manœuvring with his active army, either by his right or left, on either flank of the Allies.

This then is the place to discuss the determination of the

French offensive decisive point of the field of battle, the Allies being now in their 1st position in line of battle. It has first, however, to be observed, that the Spanish having been placed in position during the night on the Allies' right, their right wing was now still closer to Soult's mass hid behind the hill, which mass was within a quarter of an hour's march of the right flank of the Allies.

Let it be considered that there are three points which have pretensions to being the French offensive decisive point of the field of battle, viz. three equal portions, which may be called the two wings and centre, each in length one mile and a third, and making up the Albuera ridge to the extent of two miles on each side the Valverde road; it is now proposed, by means of the five principal questions given in that Chapter, and their subordinate component questions, to determine between them.

In reply to the Principal Question I., and its subordinate questions, it may be answered,—

That by forming the line of battle across the broadest part of the highest table land, on the right wing of the Albuera position, perpendicular to the Allies' line of battle, and attacking thus with the utmost vigour and rapidity, a much more brilliant application of the Principles of Tactics is made than if the attack be directed on the centre or remaining wing of the position, for Principle III. and Principle III. Case 11 especially, are applied, because the mass of the French will be brought successively into collision with fractions of the enemy; for if an army can by any means form its line of battle perpendicularly to an extremity of the line of battle of the enemy, and attack vigorously, bringing the wings forward, and advancing rapidly along the enemy's line, and rolling it up, it is perfectly clear that the mass of the army is always engaged with a fraction of the enemy, until such time as *the whole of the enemy* shall have executed a change of front, which cannot be effected under such circumstances before a very considerable time has elapsed, if at all, and before which time the enemy will, in all probability, be ruined: in fact, the wing attacked will probably be ruined before the centre and opposite wing have been able to fire a shot, especially

if the line of battle be long, and they in turn, attacked by the advancing mass of the army, discouraged by the defeat and impeded by the remnants of their wing, will probably share its fate.

In reply to the Principal Question II. and its subordinates, it may be replied, answering the four subordinates in order,—

1. There is no tactical defensive line, or tactical obstacles, or tactical pivots, protecting and supporting the point; for though the Albuera, between the hill behind which the mass of the French are hid and the Almendral wing of the position, were considered a natural tactical defensive line, yet it is wholly abandoned by the Allies. Before the centre and remaining third, the Albuera not only forms a larger natural tactical defensive line, because lower down its course, but a line too which is defended.

2. The Almendral third is most inadequately and feebly occupied by the Allies, who have not attached to the point the importance which it deserves, and have directed their dispositions and strength to the defence of another point, viz. the centre of the position occupied by the Allies' line, which it is not to the interest of the French to attack.

3. The selection of the field of battle by the Allies was not in accordance with the relative composition of the two armies..

4. The Allies had mistaken and neglected their defensive decisive point.

Hence the attack on the Almendral third was much easier than that on either of the other two-thirds.

In reply to the Principal Question III. and its subordinates, it may be answered,—

That the Almendral third having been seized by the French, they would, in all probability, be in a position to make a subsequent good application of the principles, certainly a far better application than if they had seized either the central or remaining third, to the defence of which the Allies had directed their dispositions; and, having seized the Almendral third, they would, in all probability, be in a position to apply the Principle III., and especially the Principle III. Case 11, if the seizure of this third were made with

the vigour and rapidity which the Principle XIV. indicates. When an army is so happy as to be able to direct its attack on the flank of its enemy, then the utmost rapidity and vigour are to be employed ; then are seconds precious, and the enemy is to be beaten before he can have time to right himself. An army in a line of battle three miles long (this being the length of the Allies' line, from the left of the Portuguese to the right of the Spaniards) does not so readily execute a change of front during the course of a vigorous flank attack, and find a new position on which to form a new line of battle to resist the enemy.

In reply to the Principal Question IV., it may be answered,—

That supposing the Almendral third to have been seized upon, the configuration of ground of the new position is very good, for a slope downwards separates the broadest part of the table land from the table land occupied by the Spaniards. Along the top of this slope French batteries might be placed, and as well, the new line of battle which the ground allows the French to form is longer than that which it presents to the Allies, and yet not at all out of proportion to the numbers of the French.

In reply to the Principal Question V., it may be answered,—

That the possession of the Almendral third, owing to the change of direction in the Allies' single line of retreat, the Valverde road, bringing it in rear of the Almendral third, operates more on the Allies' line of retreat than that of either of the two remaining thirds.

Soult, having made his brief reconnaissance, determined that his offensive decisive point of the field of battle remained unchanged, that it was that part spoken of as the Almendral third, that his army had been well placed during the night, and that no better opportunity could be expected to be obtained by manœuvring on the right or left of the Allies with his active army. He therefore determines to attack at once, persisting in the plan of attack, for the execution of which plan he had disposed his men during the night in the way already given, and which plan was as follows :—

Godinot with his Brigade, preceded by the ten guns attached to it, is to issue from the wood, follow the dotted tactical line indicated in plan, force the passage of the Albuera, take the village of Albuera, and hinder the Allies, as far as may be, from executing a change of front, or moving reinforcements from their left to their right. And another, and perhaps the most important, object to be obtained by this movement of Godinot's Brigade, was to make the Allies think that the French attack was to be directed on their centre, and thus hinder them from looking after their right flank where the real attack was to develop itself.

Soult at the same time, with the 5th Corps d'Armée, Latour Maubourg's heavy cavalry, and the remaining thirty guns, is to follow the tactical lines drawn in plan, and assume the new position painted dark yellow. Latour Maubourg's heavy cavalry, as will be seen in plan, is to move on the left flank of the 5th corps on the outside portion of a circle, and form on the reverse slope of the Albuera ridge, and in the valley of the Aroya.

Werlé, with his Brigade, is to follow the tactical line dotted in plan, at first following Godinot, to give the Allies the idea that the main attack was to be made on their centre, and that they might expect the whole French army to issue from their concealment in échelons, the right in advance; then, as soon as Godinot should have engaged the Allies about the bridge and village, to leave a single battalion as a reserve to Godinot, and returning along the dotted tactical line in figure, drawn from the 1st position of his Brigade, mount the hill in rear of the 5th Corps d'Armée to which he was to be a reserve.

The light cavalry mass was to follow the dotted tactical line drawn from its first position in figure, and, sweeping round the rear of the 5th Corps d'Armée, unite with Latour Maubourg's heavy horsemen. It was to leave some squadrons to watch the Allies' cavalry, and connect the attacks.

The squadrons of cavalry, which were on the extreme right of the 1st French Position, were to proceed down the river below the bridge, following the tactical line

drawn from their first position, and observe the position of the Allies' cavalry in advance of the left of the Portuguese. It now remains to describe the course of the battle.

May 16th.—At 9 o'clock, a. m., Godinot emerged from the wood in one heavy column, preceded by his ten guns, and acted in accordance with the plan of battle. He made for the bridge, and attempted, by a sharp cannonade and fire of musketry, to force the passage of the bridge. He was flanked on the left by the light cavalry. General Briché led the two hussar regiments, which formed the extreme right of the French, according to the plan of battle, down the river below the bridge, to flank his right, observe the Portuguese cavalry which were under Otway, and may be seen in plan on the opposite bank. The French Lancers, forming part of the Light Cavalry mass at present in advance, and flanking Godinot's right, crossed the river above the bridge. The 3d dragoon guards drove the lancers to their own side. Dickson's Portuguese guns, opening from a rising ground above the village, ploughed Godinot's column, which, with extreme absurdity, crowded to the bridge, though the river was, as it has been said, fordable above and below. Werlé follows Godinot. Beresford, observing that Werlé does not follow Godinot closely, judges that the chief effort would be on the right.

Beresford makes, in consequence, the following dispositions:—He sends orders to Blake to form his Spaniards at right angles to his present front, across the broadest part of the table land, on the Almendral wing of the position.

He brings the Portuguese from the left to the centre, sends one brigade to support Alten at the bridge, and places the rest in columns of battalions as a general reserve. The Portuguese in their new position, in consequence of these orders, *i. e.* their second position, are painted dark purple, and will readily be recognised in plan. He sent the two Brigades of the 4th Division, the one British, the other Portuguese, along the tactical line, drawn from their first position in figure to the new position in figure, where the British Brigade (which was called the Fuzileer Brigade) is, according to what has been

agreed upon, painted dark red, and the Portuguese Brigade dark purple.

He sends the three Brigades (Colborne's, Houghton's, and Abercrombie's) of the 2d Division along the tactical lines drawn from them in plan, to the support of Blake. These three brigades of the 2d Division are represented on their march in the plan; and this being the second position in which they are represented, they are coloured dark red. He posts the 13th Dragoon Guards near the river above the bridge, where they may be seen in plan dark red.

He sends the Cavalry mass under Lumley, and the horse artillery along the tactical line, drawn from their first position in plan to their second position on the left bank of the Aroya, where they may be seen in plan coloured dark red.

Blake refused to execute Beresford's orders, conveyed to him by Colonel Hardinge, stating, with great heat, that the real attack was at the village and the bridge; he was a second time entreated to obey, but remained obstinate, till Beresford arrived in person, and then only assented because the columns of the 5th Corps d'Armée, which had followed the tactical line assigned to them in Soult's plan, had mounted the hill, and were actively menacing his flank. Blake, however, yielding to this evidence, began changing his front with such pedantic slowness that Beresford, impatient of his folly, took the command in person.

Great was the confusion and delay thus occasioned, and ere the troops were completely formed, the French were among them; for, ere half-an-hour had elapsed from the commencement of Godinot's movement, the French had assumed the position indicated by the *dark yellow* bodies in the plan, and two-thirds of the whole French army—in number 15,000 men—were in a compact line of battle on the right flank of the Allies, while they, composed of different nations, were executing a disorderly change of front, and Werlé, with his Brigade, was already beginning to mount the hill in the rear of the 5th Corps d'Armée, the thirty guns, and Latour Maubourg's heavy

cavalry, to form the reserve,—for Werlé had acted in accordance with Soult's plan of battle; and as soon as Godinot had engaged the Allies at the bridge and village, leaving a single battalion as a reserve for Godinot, countermarched with the rest of his brigade to mount the hill, in rear of the 5th Corps d'Armée. The light cavalry mass, too, leaving, in accordance with Soult's plan of battle, some squadrons to connect the attacks, and keep the 13th Dragoons in check, and sweeping round the rear of the 5th Corps d'Armée, joined Latour Maubourg's horsemen in the plain of the Aroya. By the time the French were among them, the Spanish were, in a disorderly manner, changing their front, and occupying their second position given in the plan, and which it was agreed to represent by parallelograms entirely shaded.

Vainly Beresford tried to get the Spanish line farther advanced, to make room on the broad table land for the 2d Division, now advancing to support it: "the French guns opened, their infantry threw out a heavy musketry

- fire, and their cavalry outflanking the front, and menacing different points, put the Spaniards into disorder; they fell fast, and went back. Soult thought the whole army was yielding; he pushed forward his columns, his reserves mounted the hill behind him, and Ruty placed all the French batteries in position."

It is here to be observed, that the French batteries never advanced during the whole battle farther than the position of the front row of the nine dark yellow parallelograms which indicate the 5th Corps d'Armée.

By this time General Stewart, with the brigade of the 2d Division under Colborne, arrived at the foot of the slope, which has been already said to separate the table land, now occupied by the French line of battle, from that occupied by the Spanish in their first position. Colborne, seeing the confusion above, desired Stewart to form in line of battle previous to mounting the slope; but Stewart "led up in columns of companies, passed the Spanish right, and endeavoured to open a line by succession of battalions, as they arrived. The enemy's fire was found too destructive to be borne passively, and the foremost

troops charged ; but then heavy rain obscured the view, four regiments of French hussars and lancers galloped in from the right at the moment of advancing, and two-thirds of the brigade went down ; the 31st Regiment alone, being on the left," had time to form square and resist ; this they did, " while the French horsemen, riding furiously about, trampled the others, and captured six guns. The tumult was great ; a lancer fell upon Beresford, who, being a man of great strength, put aside the lance, and cast him from his saddle ; and then a shift of wind blowing aside the smoke and mist, Lumley perceived the mischief from the plain below, and, sending four squadrons up against the straggling lancers, cut many of them off. Penne Villemur's Spanish cavalry were also directed to charge the French horsemen in the plain, and they galloped forwards till within a few yards of their foes, but then shamefully fled. During this first unhappy effort of the 2d Division, so great was the disorder that the Spaniards in one part fired without cessation, though the British troops were before them in another part, and flying before the lancers ; they would have broken through the 29th, then advancing to succour Colborne, but with a stern resolution that regiment smote friends and foes, without distinction, in its onward progress. Meanwhile Beresford, finding the main body of the Spaniards would not advance, seized an ensign by the breast, and bore him and his colours by main force to the front ; yet the troops did not follow, and the coward ran back when released from the marshal's iron grasp. In this crisis the weather, which had ruined Colborne's brigade, saved the day. Soult could not see the whole field of battle, and kept his heavy columns inactive when the decisive blow might have been struck."*

* Up to the time that Colborne's brigade was ruined, the French had by far the best of it, and at this time they had by far the best position ; their line of battle, too, was far more orderly and compact, for, from the time that two-thirds of Colborne's brigade went down till, after great doubt, confusion, and loss of time, the British, in the way which will be stated, got into their 3d position, in which they are painted dark lake, and the Portuguese brigade of the 4th division, into their 3d position, where they are seen in plan left white, and thus formed a line of battle, which will be recognised in plan, the Allies' line of battle was so discontinuous and unconnected that it could hardly be called a line of battle at all. It was

Soult's "cavalry, indeed, began to hem in that of the Allies, yet the fire of the horse artillery enabled Lumley, covered as he was by the bed of the Arova, and supported by the 4th Division, to check them on the plain; Colborne still remained on the height with the 31st Regiment," (which, it will be remembered, had formed square, and resisted the lancers,) "the British artillery, under Julius Hartman, was fast coming into action, and William Stewart, who had escaped the charge of the lancers, was again mounting the hill with Houghton's Brigade" (2d Division), "which he brought on with equal vehemence, but in a juster order of battle. The day then cleared, and a dreadful fire poured into the thickest of the French columns, convinced Soult that the fight was yet to be won. Houghton's regiments reached the height under a heavy cannonade, and the 29th, after breaking through the fugitive Spaniards, was charged in flank by the French lancers; but two companies wheeling to the right foiled this attack with a sharp fire, and then the 3d Brigade of the 2d Division" (Abercrombie's) "came up on the left, and the Spanish troops, under Zayas and Ballesteros, at last moved forward. Hartman's artillery was now in full play, and the enemy's infantry recoiled, but, soon recovering, renewed the fight with greater violence than before. The cannon on both sides discharged showers of grape at half range, the peals of musketry were incessant, often within pistol shot, yet the close formation of the French embarrassed their battle, and the British line would not yield them an inch of ground or a moment of time to open their ranks. Their fighting was, however, fierce and dangerous. Stewart was twice wounded, Colonel Duckworth was slain, and the

during this period that Soult, availing himself of the compactness and order of his line of battle, and the total want of connexion, and presence of confusion in the Allies' line, ought to have made a determined, rapid, vigorous, and connected advance along the whole of his tactical front, advancing his artillery to the top of the slope. To do this it would have perhaps been best if he had formed the first row of his line of battle of battalions deployed in lines, and kept the second row in semi-profound columns of attack. The powerful musketry fire of his front line, with the thirty guns placed in it, would have to almost a certainty secured him the power of rapidly advancing, placing his guns on the top of ridge, and, by again advancing, the victory.

intrepid Houghton, having received many wounds without shrinking, fell, and died in the very act of cheering on his men. Still the struggle continued with unabated fury. Colonel Inglis, 22 officers, and more than 400 men, out of 570 who had mounted the hill, fell in the 57th alone ; the other regiments were scarcely better off, not one-third were standing in any, and as the English fire slackened, a French column was established in advance on the right flank. The play of the guns checked them for a moment, but in this dreadful crisis Beresford wavered ! Destruction stared him in the face, his personal resources were exhausted, and the unhappy thought of a retreat arose in his agitated mind. He had before," as it has been said, "brought Hamilton's Portuguese into a situation to cover a retrograde movement ; he now sent Alten orders to abandon the bridge and village of Albueria, and to take with his Germans and the Portuguese artillery, a position to cover the retreat by the Valverde road. But while the commander was thus preparing to resign the contest, Colonel Hardinge had urged Cole to advance with the 4th Division, and then riding to the 3d Brigade of the 2d Division" (Abercrombie's), which had hitherto only been slightly engaged, directed him also to push forward into the fight. The die was thus cast ; Beresford acquiesced, Alten received orders to retake the village, and this terrible battle was continued. "The 4th Division," it has been already said, "was composed of two Brigades,* one of Portuguese, under General Harvey, the other under Sir William Myers, consisting of the 7th and 23d regiments, was called the Fuzileer Brigade : Harvey's Portuguese were immediately pushed on between Lumley's Dragoons and the hill," (they are in plan not painted, but left white,) "where they were charged by some French cavalry whom they beat off, and meantime Cole led his Fuzileers up the contested height. At this time six guns were in the enemy's possession ; the whole of Werlé's reserves were coming forward to reinforce the front column of the French ; the remnant of Houghton's Brigade could no

* It had a 3d Brigade, which was on march by Jerumenha, and was not present at the battle.

longer maintain its ground ; the field was heaped with carcasses ; the lancers were riding furiously about the captured artillery on the upper parts of the hill ; and behind all, Hamilton's Portuguese and Alten's Germans, now withdrawing from the bridge, seemed to be in full retreat. Soon, however, Cole's Fuzileers, flanked by a battalion of the Lusitanian legion, under Colonel Hawkshawe, mounted the hill, drove off the lancers, recovered five of the captured guns and one colour, and appeared on the right of Houghton's brigade precisely as Abercrombie passed it on the left."

The position of the British at this moment is given in the plan, coloured dark lake ; Houghton's remnants, and Colborne's 31st regiment in the centre ; Cole's brigade, whose tactical line is drawn in plan, is on the right, and Abercrombie's brigade is on the left ; Lumley, with the cavalry and horse-artillery, had advanced somewhat ; the Portuguese brigade of the fourth division is left white.

" Such a gallant line, issuing from the midst of the smoke and rapidly separating itself from the confused and broken multitude, startled the enemy's masses, which were increasing and pressing onwards as to an assured victory ; they wavered, hesitated, and then vomiting forth a storm of fire, hastily endeavoured to enlarge their front, while a fearful discharge of grape from all their artillery whistled through the British ranks. Myers was killed, Cole and the three colonels, Ellis, Blakeney, and Hawkshawe, fell wounded, and the fuzileer battalions, struck by the iron tempest, reeled and staggered like sinking ships ; but suddenly and sternly recovering they closed on their terrible enemies, and then was seen with what a strength and majesty the British soldier fights. In vain did Soult with voice and gesture animate his Frenchmen, in vain did the hardiest veterans break from the crowded columns, and sacrifice their lives to gain time for the mass to open out on such a fair field ; in vain did the mass itself bear up, and, fiercely striving, fire indiscriminately upon friends and foes, while the horsemen hovering on the flank threatened to charge the advancing line. Nothing could stop that astonishing infantry. No sudden burst of undisciplined

valour, no nervous enthusiasm weakened the stability of their order ; their flashing eyes were bent on the dark columns in their front, their measured tread shook the ground, their dreadful volleys swept away the head of every formation, their deafening shouts overpowered the dissonant cries that broke from all parts of the tumultuous crowd, as slowly and with a horrid carnage it was pushed by the incessant vigour of the attack to the farthest edge of the hill. In vain did the French reserves mix with the struggling multitude to sustain the fight ; their efforts only increased the irremediable confusion, and the mighty mass, breaking off like a loosened cliff, went headlong down the steep ; the rain flowed after in streams discoloured with blood, and eighteen hundred unwounded men, the remnant of six thousand unconquerable British soldiers, stood triumphant on the fatal hill !

" While the fuzileers were striving on the height, the cavalry and Harvey's brigade continually advanced, and Latour Maubourg's dragoons, being also battered by Lefebre's guns, retired before them ; yet still they threatened the fuzileers with their right, and with their left prevented Lumley's horsemen from falling on the defeated infantry. Alten's Germans had now retaken the village with some loss, and Blake's first line, which had not been engaged, was directed to support them ; Hamilton's and Collins's Portuguese, forming a mass of ten thousand fresh men, were brought up to support the fuzileers and Abercrombie's brigade, and at the same time Zayas, Ballesteros, and España advanced. Nevertheless, so rapid was the execution of the fuzileers that the enemy's infantry were never attained by these reserves, which yet suffered severely ; for Ruty got the French guns altogether, and worked them with prodigious activity while the fifth corps still made head ; and when the day was irrevocably lost, he regained the other side of the Albuera, and protected the passage of the broken infantry.

" Beresford was too hardly handled to pursue. He formed a fresh line with his Portuguese, parallel to the hill from whence Soult had advanced, and where the French were now rallying with their usual celerity ; the action still

continued at the bridge, but Godinot's division and the connecting battalion of grenadiers were soon afterwards withdrawn, and all firing ceased before three o'clock. The serious fighting had endured four hours, and in that time nearly seven thousand of the allies and above eight thousand of their adversaries were struck down. Three French generals were wounded, two slain, and eight hundred soldiers so badly hurt as to be left on the field. On Beresford's side only two thousand Spaniards and six hundred Germans and Portuguese were killed or wounded ; hence it is plain with what a resolution the pure British fought, for they had but eighteen hundred men left standing ! The laurel is nobly won when the exhausted victor reels as he places it on his bleeding front.

"The trophies of the French were five hundred un-wounded prisoners, a howitzer, and several stand of colours. The British had nothing of that kind to boast of, but the horrid piles of carcasses within their lines told with dreadful eloquence who were the conquerors ; and all that night the rain poured down, and the river and the hills and the woods resounded with the dismal clamour and groans of dying men. Beresford, compelled to place his Portuguese in the front line, was oppressed with the number of his wounded ; they far exceeded the sound amongst the British soldiers, and when the pickets were posted few men remained to help the sufferers. In this cruel situation he sent Hardinge to demand assistance from Blake ; but with him wrath and mortified pride were predominant, and he refused, saying, it was customary with allied armies for each to take care of his own men. Morning came, and both armies kept their respective positions, the wounded still covering the field of battle, the hostile lines still menacing and dangerous. The greater number had fallen on the French side, the best soldiers on that of the allies ; and the dark masses of Soult's powerful cavalry and artillery, covering all his front, seemed alone able to contend again for the victory. The right of the French also appeared to threaten the Badajoz road, and Beresford in gloom and doubt awaited another attack ; but on the 17th, the third brigade of the fourth division came up by a forced

march from Jerumenha, which enabled the second division to retake their former ground between the Valverde and the Badajos roads, and on the 18th Soult retreated.

"He left to English generosity several hundred men, too deeply wounded to be removed; all that could travel he had, in the night of the 17th, sent by the royal road, through Santa Marta, Los Santos, and Monasterio to Seville. Now protecting his movements with his horsemen and six battalions of infantry, he filed the army in the morning to its right, and so gained the road to Solano; when this flank march was completed, Latour Maubourg covered the rear with the heavy dragoons, and Briché protected the march of the wounded men by the royal road. Soult, however, halted the 19th at Solano, designing to hold on in Estremadura, and draw reinforcements from Andalusia; for he knew well, though Beresford was no longer in a condition to hurt Badajos, Wellington would soon come down, and fresh combats would be necessary to save that fortress. He had as early as the 14th commenced repairing the castle of Villalba, a large structure between Almendralejos and Santa Marta, and now he continued the work, with a view to form a head of cantonments, which the allies should be unable to take before the French army could be reinforced."—*Napier's Peninsular War*, vol. iii. pp. 170—173.

The faults of Marshal Beresford appear, then, to have been,—

1. A disregard of Principle XXIV. or a not knowing how to apply it in the circumstances and in the field of battle on which he found himself.

2. An entire mistake of his defensive decisive point, clearly indicated by his dispositions for defending the left and centre.

3. A want of faith in Maxim 1, which led him to give orders for retreating from a field which he yet could win, as the result showed, and which orders if executed would probably have entailed the destruction of his army.

These were doubtless exceedingly grave faults, but there was found in him, in exchange, great intrepidity and valour—properties which he however doubtless shares with

the majority of British soldiers, as this battle of Albuera and the last siege of Badajoz amply testify. He showed as well that if he were not competent to direct the operations of an army, he would, under a leader like Napoleon, have been capable of directing with extreme credit and renown the movements of a Corps d'Armée; a great talent indeed, and one he shared with many of Napoleon's Marshals, perhaps especially with Ney, to whom he may not unaptly be compared. Though on the morning of the 17th, he greatly feared a fresh attack on the part of Soult, and awaited it in doubt and gloom, he notwithstanding made a fine application of Principle XXIX.; and though weak, by finely forming his front line, apparently menacing and dangerous, he deterred Soult (or at least, in all probability, greatly influenced his determination) from an attack, which, there being only 1,800 unwounded British Infantry in the army, would in all probability have been successful.

With regard to the French Marshal, his determination of his offensive decisive point, the disposition of his army during the night, and his plan of battle, were excellently conceived. He, however, appears to have failed in applying the Principle XIV., when, if he had fully carried it out, it would have given him the victory in all probability. He seems to have forgotten Principle XLV., and in consequence Latour Maubourg, vastly superior to Lumley in cavalry, but without artillery, was held in check by the latter, owing to his having a battery of horse artillery attached to him. Its horse artillery is the fire of cavalry. There can be no question, too, that Soult committed a great error, in what may be called minor tactics, in keeping his men in such deep columns. If a general will expose his men in deep columns, in which they cannot fire or fight, to artillery and infantry in line, who can fire and fight, and will fire and fight, he must, under similar circumstances, expect to meet the fate of Soult, who by so doing lost the fairest field ever open to French arms in the Peninsula, and which his enemy's mistakes and the excellence of his own combinations appeared to have given him to a certainty. Soult's conduct in this has, however,

the palliation that heavy French columns had often frightened and put to flight Austrian armies; but British Infantry in lines do not run from, nor are they frightened at, heavy French columns, and would be very silly if they were; for they can and have poured into them a tremendous fire, which heavy columns cannot, *of necessity*, at all equally return, and then, if necessary, have closed with the heavy masses, whose close formation is a serious hindrance to their fighting.

The following account of the battle of Austerlitz is given in illustration and exemplification of the Principle I. Cases 4, 6, 7; Principle II. Case 5; Principle III.; Principle III. Case 11; and Principles IV. V. XXIV. XXIX. and LI.

A.D. 1805.

The contending parties in the battle of Austerlitz were the French on the one side, and the Russians and Austrians united on the other. An account of the campaign preceding this battle is given in the Author's "Elementary Treatise on Strategy."

Nov. 22d to 28th.—The Corps d'Armée of Soult, Lannes, and Murat, were in cantonments along the road from Brunn to Wischau, and in the villages around Brunn and adjacent to the roads from Brunn to Wischau, which latter was the advanced post protecting the cantonments, being on that side of the circumference of the area of cantonments most directly towards the Russo-Austrian army, and lying on the road from Brunn to Olmutz. Brunn was an excellent and important fortress; and though from its position, in the very centre of the Tactical theatre of war, it was a most important decisive strategical point, it had been most unaccountably abandoned to Napoleon, though there was no difficulty either in garrisoning it or provisioning it. Napoleon employed it as the principal pivot of manœuvres, on which the operations which concluded with the battle of Austerlitz depended.

During the same time, *i.e.* from Nov. 22d to 28th, Davoust, with his Corps d'Armée, was *en échelons* on the

road from Brunn to Presbourg, which latter place he was occupying as an advanced strategical post, for the purpose of damping the courage of the War party in Hungary, and reconnoitering,* in application of the Principles XXIX. and XXIV.

Bernadotte was with his Corps d'Armée *en échelons* on the road from Brunn to Iglau, which latter place he was occupying as a strategical advanced post, for the purpose of operating upon the mental and psychical properties of the Moravians, and reconnoitering in application of the Principles XXIX. and XXIV..

Mortier, with his Corps d'Armée, was stationed at Vienna, to operate on the mental and psychical properties of the metropolitans, and through them on the people in provinces, to reconnoitre, and protect the splendid bridge over the Danube, in application of the Principles XXIX. XXIV. and II.

Marmont, with his Corps d'Armée, is at Léoben, Bruck, and Neustadt, to induce the Archduke Charles, now retreating from Italy, to take the longer road through Hungary, and thus retard the time of his junction with the Russo-Austrian army, now at Olmutz, that the Russo-Austrian army might be beaten separately, and that the Principle III., which is also a principle of strategy, might be applied.

The Russo-Austrian army was during the same time in and around Olmutz, and on the road from Olmutz to Brunn, having its advanced post about eight miles from Wischau, the French head of cantonments.

Nov. 25th.—The Russian Guards and Reserves arrived at Olmutz.

Nov. 28th.—The Russo-Austrian army attacks and carries the advanced post of Wischau, which protected the French cantonments.

Soult, Lannes, and Murat, are ordered to raise their cantonments, fall back, and occupy a position close to Brunn, covering that fortress.

Davoust, already *en échelons* along the road from Presbourg to Brunn, that he might have less distance to

* There is a Chapter on several different ways of reconnoitering.

march, and perform the march more easily, is ordered to hasten to Brunn by the road through Nicholsberg.

Bernadotte already *en échelons* along the road from Iglaeu to Brunn, that he might have less distance to march, and perform the march more easily, is ordered to hasten by forced marches to Brunn.

Mortier receives orders to leave the occupation of Vienna to the single division Dumonceau, and hasten to Brunn with the rest of his Corps d'Armée.

Marmont is ordered to approach nearer Vienna.

Hence Brunn was the strategical point of concentration of the French army.

Nov. 29th.—The Russo-Austrian army made a short march of seven miles from Wischau to the heights of Kutchreau. This march by its direction indicated a desire to gain the French right before giving battle.

Nov. 30th.—The Russo-Austrians again make a march, and bivouac at Hogieditz; a tendency to gain the French right is apparent.

Dec. 1st.—The Russo-Austrians debouching from Austerlitz find the French line in the position it occupies on plan 4, painted light red, and place themselves opposite the French in the line indicated by the light yellow bodies in the plan.

It is here to be noticed: 1. That Olmutz is about 37 miles from Austerlitz, and 44 from Brunn. 3. That the Russo-Austrian army received the Guards and Reserves, the last large fraction which joined it, Nov. 25th. 3. It was 23 miles from Olmutz to Wischau, and consequently, since it has been said that it was 37 miles from Olmutz to Austerlitz, it was 13 miles from Wischau to Austerlitz. 4. On Dec. 25th, there was an army of nearly 70,000 men between Olmutz and Wischau, while Napoleon had not more than 45,000 men near Brunn till the morning of the 1st, when Bernadotte arrived.

It is then to be considered whether it would not, under the circumstances, have been perfectly practicable for the Russo-Austrian army to have gained a day by taking the post of Wischau on the 27th instead of the 28th.

And whether, admitting that it was impossible, or inex-

pedient rather, for it must have been possible, to have taken Wischau the 27th, and it having been taken the 28th, as it actually was, it was not possible to march the 13 miles from Wischau to Austerlitz the 29th, instead of devoting that day to a little march of 7 miles, and attack on the 30th, with 70,000 men about in line, whereas Napoleon had not more than 45,000 till the morning of Dec. 1st.

Or if Wischau had been taken the 27th instead of the 28th, and the 28th had been devoted to marching the 13 miles between Wischau and Austerlitz, might not a good application of Principle III., which is also a principle of Strategy, have been made by attacking with 70,000 men in line the 45,000 men Napoleon had, for until the morning of the 1st he had not more than 45,000?

It may be replied that Napoleon, availing himself of the possession of the fortress of Brunn, would have taken up the strong position there was around it, and there awaited the arrival of Bernadotte, Davoust, and Mortier. Had he done so, the Russo-Austrian Chiefs would have had no one but themselves and their generous magnanimity to have thanked for it, as there was no tangible reason why Brunn should have been abandoned to him. Whether he would have taken up a strong position around Brunn can not be known; but at all events, it is not often that anything is lost in war by using the utmost rapidity, gaining time, and being in readiness at the earliest moment, in accordance with Principle LI., and if they had failed in applying the Principle III., they would certainly have applied the Principle LI. In war all that can be done, is, under the circumstances which present, to make the best application of the recognised principles of the art, which are the collated results of experience, and this having been done, the rest must be left to Fortune,* with a manly and unyielding heart.

* Fortune is defined by Sir W. Napier, in his "History of the War in the Peninsula," to be the name "for the unknown combinations of infinite power." Napoleon is said to have believed that the consecution of events is bound by an inexorable fatality. To invest Napoleon with atheistic tendencies was a dodge of his enemies; and it is far more probable that that splendid and comprehensive genius attributed the inevitable consecution of circumstances not to Fate, but to an intelligent and wonderful Supreme.

Dec. 1st.—In the morning, Bernadotte arrives from Iglau, and enters into line.

In the evening Davoust, coming from Presbourg by the road through Nicolsberg, reaches Raigern with 2 of his divisions; the remaining division is at Nicolsberg, about 27 miles distant from Austerlitz; Raigern was about $5\frac{1}{2}$ miles distant from the French line, measuring along the tactical line Davoust followed in coming into line at Telnitz and Sokolnitz.

The line which Napoleon occupied on the morning of Dec. 1st, (the day on which the Russo-Austrians debouched from Austerlitz, and took up the position in front of him which is painted *light yellow* in the Plan 4,) is painted *light red* in the Plan, and extended northward from Telnitz (*i.e.* towards the top of the Plan) to the distance of seven miles.

The following verbal description and the plan will give the leading particulars of the formation of the French line on Dec. 1st, the day the Allies debouched from Austerlitz, and placed themselves in the light yellow position in front of it.

The six parallelograms, in the centre of which the figure 1 is placed, represent the Corps d'Armée of Lannes, (20 battalions, 16 squadrons,) The five parallelograms, in the centre of which the figure 2 is placed, represent the Corps d'Armée of Bernadotte, (18 battalions, 16 squadrons.) The six parallelograms placed in a single row, and with the diagonals indicating them to be cavalry, in the centre of which the figure 3 is placed, represent the Cavalry Corps under Murat, (76 squadrons.) The six parallelograms, in the centre of which the figure 4 is placed, represent the Guards and Reserves under Oudinot, (20 battalions, 14 squadrons.) The remaining parallelograms to which no number is attached, represent the Corps d'Armée of Soult, (31 battalions, 12 squadrons.) The three parallelograms close to Raigern, to which the figure 5 is affixed, represent the two divisions of Davoust, (12 battalions, 18 squadrons.)

It is clear then from what has been said, and the plan, that the whole of the French line south of the northern-

most of the two ponds at Kobelnitz, and extending to Telnitz, was occupied by a portion of Soult's Corps d'Armée, no numbers being affixed in plan.

The portion of the line spoken of, about 3 miles in length, was occupied by a division and a half of Soult's Corps d'Armée, in number about 10,000. This would give on an average, for this portion of the line, about 3,300 to a mile. These were, however, supported and connected by a division of light cavalry under Margeron.

The remaining 4 miles of the line were occupied by 50,000, or about 12,500 to a mile on the average.

Davoust's two divisions were in number about 10,000.

Hence the total number of the French amounted to about 70,000.

And the number of the Allies was nearly the same.

To consider the French line so formed, and coloured light red in plan,

From what has been said, and the plan, it becomes evident:

1. That the 3 miles of the French line from Telnitz to Kobelnitz is very weak in numbers compared with the remaining 4 miles north of Kobelnitz, and if considered solely with regard to the numbers of men occupying the two portions, is to the remaining four miles, in point of strength, nearly in the ratio of 1 to 4.

2. That the bodies forming the weak portion of the line from Telnitz to Kobelnitz, are conspicuously placed on the tops of the hills on the French side of the large brook which divides the two armies, except those on the extreme right, which are also conspicuously placed on an eminence in advance of Telnitz, on the Allies' side of the large brook.

3. That the heavy masses forming the strong part of the line, extending northward from Kobelnitz for 4 miles along the side of the large brook, are on the contrary concealed to such an extent that the French line might appear to the Allies to be formed about equably.

4. That though the line of the large brook for the 3 miles northwards of Telnitz, extending to about the northernmost of the two ponds of Kobelnitz, is weakly occupied

in point of numbers, viz. by about 9,000 men in all, and that the troops occupying it are conspicuously displayed, yet they are designedly so placed, that there are bodies close at hand ready to occupy the four tactical pivots, Telnitz, Sokolnitz, the wood of Sokolnitz, and Kobelnitz (see *Def.*), and the two tactical points (see *Def.*) whose possession closes the only two roads which cross the large brook which divides the two armies in this portion of the line, with the exception of those which are closed by the occupation of Telnitz and Sokolnitz. The large brook from Telnitz to Kobelnitz, with its four tactical pivots, Telnitz, Sokolnitz, the wood of Sokolnitz, and Kobelnitz, and the ridge of hills along the French side, with the good tactical points on them, whose possession closes the only two roads which cross this portion of the large brook and the two ponds of Kobelnitz, one nearly a mile long, may be said to be a tactical base of manœuvres.

5. That Davoust with two divisions (10,000 men) would before night arrive in his light-red position near Raigern, and be able to be with them in line on the morrow at daybreak, before which time it was quite clear the Russo-Austrians would not be ready to attack; and that Davoust had received orders to march to Rosenberg at daybreak, a place from which three roads lead like radii from a centre, (see plan,) to Ghirkowitz, to Kobelnitz, and to Sokolnitz and Telnitz; and remain at this central point till he should receive orders to direct himself on Ghirkowitz, Kobelnitz, or on Sokolnitz and Telnitz, according as the enemy's operations in developing themselves should render expedient.

From this formation of the French line, what is to be inferred of Napoleon's motives in making this disposition, and what was his plan of battle?

1. By displaying his troops conspicuously on the weak three miles on the right of his line, and concealing them to the extent mentioned on the remaining four miles on the left of his line, it appears clear that he had in view to lead the Allies to believe that his line, equably formed, extended to Telnitz, and that consequently if they wished

to turn his right flank, as it appeared manifest they did, (and which if they did at all they must now, since they had approached so near to the French, do tactically,) they must, in order to do so, direct their left wing, which was to turn his right, on and beyond Telnitz.

2. That he hoped that the Allies, continuing in the same intention, which their movements ever since their march from Wischau to Kutchereau clearly manifested, of turning the French right, would for that purpose direct a large portion of their army on Sokolnitz, Telnitz, and beyond Telnitz, which large fraction he hoped, in accordance with and application of Principle V., to contain with a much smaller fraction of his own, profiting by the base of manœuvres already described *for a sufficient time*, i. e. *till such time as he had executed one or other of the two following plans of battle, according as the enemy followed one or other of the two following courses.*

These two courses, which Napoleon *hoped* the Allies might pursue, and according as they pursued the one or other of which he would pursue the corresponding one of the two plans he had formed, and which will be hereafter given, were—

1. That the Allies having determined to direct their attack on and turn his right wing, and consequently, acting on the false supposition that his line of battle extended equably to Telnitz, direct a very large fraction of their forces on Sokolnitz, Telnitz, and beyond Telnitz, will *not* act in opposition to Principle I. Cases 4, 6, 7, *by neglecting to follow the large left wing, consequently directed on Sokolnitz, Telnitz, and beyond Telnitz, with the centre and right wing*, so that their line of battle should not have a large gap or weak interval towards the centre, nor from its too great length should be weak everywhere on the centre and right; but that, on the other hand, having determined on attacking and turning his left wing, would, according to the Principles, at least, neither leave a large weak gap or interval about the centre, nor allow the line, with the exception of the attacking left wing, to be weak everywhere on the centre and left in consequence of its too great length.

2. That the Allies having determined to direct their attack on and turn his right wing, and consequently acting on the false supposition that his line of battle extended equably to Telnitz, direct a very large fraction of their forces on Sokolnitz, Telnitz, and beyond Telnitz, will act in opposition to Principle I. Cases 4, 6, 7; and neglecting to follow their large left wing with their centre and right, leave a large weak gap or interval towards the centre, or else leave the whole of the rest of the line weak by its too great extent.

Before stating Napoleon's two plans of battle, according as the Allies adopted the first or second of these two courses, it appears best, by means of the following description and the plan, to put the reader in possession of the line of battle which the Russo-Austrian army formed after debouching from Austerlitz, on December 1st, that he may see how far the line formed by the Allies on this day, and which is coloured in the plan *light yellow*, gave Napoleon reason to believe that his hopes that the Allies would direct a very large left wing on Sokolnitz, Telnitz, and beyond Telnitz, in the design of turning his right, were well and surely founded. In the description of the line of battle, the names of the different large fractions of the enemy, necessary to be given in order to the narration of the course of the battle, will be stated. Beginning from the left of the Allies' line,—

The 2 parallelograms on the extreme left, south of Aujesd, between which the letter *a* is placed, are commanded by Kienmayer, (5 battalions, 20 squadrons, and 3 regiments of Cossacks.)

The 3 parallelograms on the hill immediately south of Pratzen, to the centre of which the letter *b* is affixed, are the Cavalry Mass, commanded by the Prince Lichtenstein, (35 Russian squadrons and 24 Austrian, in all 59 squadrons.)

The 3 parallelograms immediately in rear of the three former, to the centre one of which the letter *c* is affixed, are commanded by Doctoroff, (23 battalions.)

The 2 parallelograms between which the letter *d* is placed, are under Langeron, (19 battalions.)

The single parallelogram to which *e* is affixed, is commanded by Przebyschew, (17 battalions.)

The 4 parallelograms, in the centre of which *f* is placed, are 12 Russian battalions and 15 Austrian battalions, in all 27, under Kolowrath. These were designed but not destined to be a reserve.

The 5 parallelograms, in the centre of which the letter *g* is placed, are 7 battalions and 17 squadrons, under the Archduke Constantine, designed but not destined to be in reserve.

The 10 parallelograms forming a cluster, isolated on the extreme right, to which the letter *h* is affixed, are 14 battalions, 30 squadrons, and 2 regiments of Cossacks, under Bagration. Hence the total of the Russo-Austrian army was 112 battalions, and 126 squadrons, and 5 regiments of Cossacks. They had 330 pieces of artillery. Total number about 70,000 men.

The Allies' line so formed was ten and a half miles in length, measuring along it. It is clear, then, that the left of Kienmayer, resting on the Lake of Satcham, and the presence of 47 battalions, 79 squadrons, and 3 regiments of Cossacks south of Pratzen, distributed in the way stated, *i.e.* of more than half the squadrons, more than half the Cossacks, and nearly half the battalions, together with the manifest tendency the Allies had displayed of wishing to gain his right, left Napoleon little reason to doubt but that his hopes that the Allies meditated attacking and turning his right, in the way before stated, with a very large left wing, were well and surely founded, and that it was, at all events, highly expedient to arrange plans of battle ready in the case they did so. The two courses which were open to the Allies, having determined to attack with a very large left wing in the way described, have been given, and it was, as it has been said, necessary for Napoleon to have two separate plans of battle ready, the one to be put in execution if the Allies should follow the first course, the other if the second course.

The two plans of battle were,—

Plan 1.—If the Allies adopted the first of the two courses open to them,

Napoleon would, *by means of his tactical base of manœuvres*, extending from Telnitz to the northermost of the two ponds of Kobelnitz, *contain*, with the 9,000 men forming part of Soult's Corps d'Armée, already occupying the base, assisted, if necessary, by Davoust's 2 divisions, in number 10,000, who were, as it has been said, to leave Raigern at daybreak, directing themselves on Rosenberg as a central point, from which there were roads leading to Telnitz and Sokolnitz, Kobelnitz and Ghirkowitz, by which they might march to any part of the line where they were required, or with the smallest sufficient part of Soult's 9,000 and Davoust's 10,000, *a very much larger fraction of the Allies for a sufficient time*, and with the mass of his army, in number 51,000 at least, (supposing the whole 19,000 were required to contain, which was not likely,) which were in line along the large brook, extending, as in plan, four miles northward from Kobelnitz, would, having previously formed his line of battle in the valley of the large brook in columns of attack on the Ghirkowitz side of the brook, direct his mass and attack on the right wing of the enemy, which he had, supposing the enemy to have adopted the first course, that is, of following up his large attacking left wing with his centre and right, a certainty of being able to far outflank, and attack both in front and flank, perhaps in reverse, (for the base of manœuvres allowed Napoleon to extend his line in length far more than would be safe without the existence of the base, and therefore to a much greater length than the Allies could do theirs with safety, having no such base, and themselves outflanking the French right, and attacking it in great force, and having only an equal number,) attacking at the same time on the centre, so as to hold it engaged till the ruin of the Allies' right wing was consummated, when the centre would in turn be taken in front and flank, overwhelmed in turn by the superiority of numbers as well as by the mode of attack, and after this, his centre pivoting on its right, would take the large left wing of the Allies in reverse and rear, while the containing portion of his line, strengthened by Davoust, if necessary, would contain and attack it in front.

It would be thus that Napoleon would apply the Principle V. (see the Principle) by profiting by the configuration of the ground to contain a much greater fraction of the enemy, with a much less fraction of his own, along the portion of his tactical front, formed by his base of manœuvres from Telnitz to Kobelnitz, and thus be able to obtain the requisite numerical superiority on the decisive point; and thus that he would apply the Principle III. by bringing the mass of his forces successively into collision with fractions of the enemy, viz. the left wing, the centre, and finally the right wing; and the Principle III. Case 11, by directing his attack, as far as possible, on the flank, and even the reverse and rear of the enemy.

Plan 2.—If the Allies adopted the second of the two courses open to them,

Napoleon would make precisely the same dispositions, as far as the containing portion of his line and the two divisions of Davout are concerned, and also as far as forming the rest of his line in columns of attack on the Ghirkowitz side of the valley of the large brook between Kobelnitz and the smaller brook, which enters the large brook a short distance above the high road from Brunn to Austerlitz. The difference would be that the enemy having either left a large gap or weak interval on his centre, or having with his centre and right formed a line everywhere too weak, on account of its too great length, he would direct his main attack with the mass of his army on the portion of the enemy's line, extending from about Blasowitz to about a mile south of Pratzen, i.e. to about a sufficient distance beyond Pratzen, coming from Blasowitz, and measuring along a straight line drawn through those places, to obtain possession of the hill immediately south of Pratzen, and thus obtain possession of it and of the hill north of Pratzen at the same time (see plan), contenting himself meanwhile with maintaining an equal contest on his left wing, and with containing the enemy by his base of manœuvres on his right; then when those two hills on the centre, feebly occupied, and assailed by the mass of his army, should have been taken possession of,

and the centre of the Allies broken and in full retreat, leaving a sufficient part of his centre to turn the left flank of the enemy's right wing, and impose on and pursue the remains of the broken centre, with the rest and main body of the centre executing a change of front by pivoting on the right of the centre, push whatever remains of the enemy's centre came in the way into the low grounds near Hostiradek, and taking the large left wing of the enemy in flank and reverse, for which purpose the configuration of the ground is—the hill south of Pratzen having been previously gained possession of—exceedingly favourable, drive it into the lakes of Satchan and Telnitz, and into the marshes about them, while the containing part of the right wing of his own army, assisted by whatever part of Davoust's two divisions might have been found necessary, attacked it in front.

It would be thus that Napoleon would apply the Principle V. as in the former case; the Principle I., of interior tactical lines, having manifestly interior lines in the first instance, and attacking so as to drive the enemy on to still more exterior lines; the Principle IV., which indicates that the centre is the decisive point of a field of battle, when the enemy is on a too extended tactical front, and the configuration of the ground is propitious; the Principle III., Case 11, by attacking the separated right wing of the Allies in front and flank, and the left wing of the Allies in front, flank, and reverse; lastly, the Principle II., Case 5, by driving the left of the enemy on to the lakes of Satchan and Telnitz, and the marshes round them.

It appears best to state here at once that the bodies painted dark red in plan represent the French line of battle, and the bodies painted dark yellow represent the Russo-Austrian line of battle, *at the time the decisive shock took place on the centre, from Blasowitz to about a mile south of Pratzen*. The first shock between the two armies did not take place along the whole line simultaneously: the shock between the lines north of a point about a mile south of Pratzen, that is, between the French centre and left and the Allies' centre and right, took place approximately simultaneously; but the shock between the French

right and Allies' left, south of the point about a mile south of Pratzen, took place about three-quarters of an hour before the shock on the rest of the line.

To trace the course of events and of the battle till the lines of battle of the two armies got into these two positions, the one coloured dark red, the other dark yellow:— It has been already said that the line of battle of the Allies on Dec. 1st, coloured light yellow, seemed to indicate manifestly that Napoleon's hopes that the Allies would endeavour to turn his right flank by directing a very large left wing on Sokolnitz, Telnitz, and beyond Telnitz, were about to be realized. The Allies' line, too, with its very large left wing only connected with the right by the Grand Duke Constantine (*g*), more than a mile and a half distant from either, seemed to indicate as well for certain that the Allies intended to outflank the left wing of the French also, and direct a minor and secondary attack on it, thus attacking on the two flanks at the same time, a proceeding which, with an approximate equality of forces, is manifestly contrary to the Principle III., and Principle III. Cases 4, 6, 7, unless, indeed, in the case that the centre is supported on a very strong tactical base of manœuvres, as on a fortress or entrenched camp, for example; for it is to adopt exterior lines, and leave a large weak gap or interval in the centre. It was then already apparently certain that the Allies would pursue the second of the two courses, and that Napoleon would have to put the second plan of battle into execution, and his dispositions were therefore made to do so. The accounts which he had received from all sides as to the movements of the enemy's columns, all tended to confirm him in this conviction. At nine o'clock in the evening (of Dec. 1st) Napoleon rode along the line, having previously, in application of Principle XXIX., caused a remarkable proclamation to be read to the soldiers, in which he sketched the enemy's errors, and his own plan of battle, confidently promising the victory. Suddenly the soldiers hoisted up large bundles of lighted straw at the end of long poles, and a wild, strange, but savagely majestic illumination lit dimly up the warlike scene along the French line, that winter's evening, on the field of Auster-

litz, for it was the first anniversary of the Emperor's coronation, and rolling backward the tide of war with more than gigantic might, he had already driven invading tyrants from the polluted soil sacred to the heroes he commanded. Cries of *Vive l'Empereur!* neither heartless nor wavering, resounded from all sides, for there was a sympathy wondrously strong and binding between the soldiers and their chief. The majestic display of unanimity and enthusiasm increased the confidence and courage of every man in the army, while the ominous sounds were borne into the enemy's lines. The Emperor bivouacked that night. The Marshals were assembled around him before four o'clock in the morning, to receive his last orders. At four in the morning he mounted on horseback. The moon had gone down, and the atmosphere, cold and obscure, was still. He directed his inquiries to know if the enemy had made any movement during the night which would derange his plan. All the reports of the grand-gardes agreed that all the noise in the Allies' line had gone from their right to their left, and therefore indicated movement toward their left. The enemy's fires, too, appeared as if their line had been strengthened towards Aujesd. It appeared certain that the second plan was to be adopted.

Napoleon makes the following arrangements for the execution of the plan:—

Since it appeared certain that the enemy will direct a very powerful attack on the extreme right of the French with a very large left wing, orders are at once sent to Davoust to direct himself immediately on Sokolnitz and Telnitz. As it is certain that Davoust will arrive in time, the defence of Telnitz and Sokolnitz is, in the meanwhile, committed to a strong brigade under General Merlé and the light cavalry of Margeron. Soult's Corps d'Armée, with the exception of the Brigade Merlé, viz. the Divisions Vandamme and St. Hillaire, and the Brigade Legrand, 26 battalions, 12 squadrons, in number about 15,000 men, are formed in line in columns of attack, from Kobelnitz to within a quarter of a mile of Ghirkowitz, in the valley of the large brook on the Ghirkowitz side; its

position is represented in the plan by thick black lines, not coloured.

Lannes' Corps d'Armée is similarly formed from the pond of Ghirkowitz to the brook which branches eastward, above the high road of Brunn, and is represented in the same way in the plan.

Murat is in columns on the French side of the large brook ready to march, and behind the right of Lannes.

Bernadotte is in columns ready to march on the French side of the large brook, and behind the left of Soult.

Oudinot with the Guards and the Reserves is also in columns ready to march.

When the right moment has come Soult is to turn to the right, pivoting at the same time somewhat on his right, and advance, so that the centre of the line formed by his Corps d'Armée shall be directed on Pratzen, about equal parts being directed on each side of that village. Lannes is to pivot slightly on his left, and direct himself somewhat to his left as he advances.

Murat is to pass Ghirkowitz in columns on the north side of it, while Bernadotte is also to pass Ghirkowitz in columns on the south side, and as Soult turning to the right, and Lannes in a lesser degree to the left, is to leave an interval from about the summit of the large hill north of Pratzen, to about half a mile beyond Blasowitz, this interval, of about two miles, is to be filled by Bernadotte's Corps d'Armée in line, the right of it joining Soult's left, and by Murat, who is to connect Bernadotte's left with Lannes' right.

The Guards and Reserves under Oudinot with Napoleon are, first, to second Bernadotte till such time as the enemy's centre is completely broken and in retreat, then, leaving Bernadotte with whatever portion of his Corps d'Armée may be necessary to impose on and pursue the broken centre of the enemy, and assist Lannes and Murat in turning the left flank of the enemy's right wing, are, with any part of Bernadotte which can be spared to join them, to go to the assistance of Soult, pivoting on their extreme right, and clearing away and driving any portions of the broken centre of the enemy whose proximity might

not be wanted, into the marshy ground about Hostiradek; in their course take in conjunction with Soult the left of the Allies in reverse and rear, and drive it into the Lake of Satchan, while Davoust attacks it at the same time in front by Telnitz and Sokolnitz.

At day-break a light fog obscured the view, especially on the low grounds; suddenly the fog disappears from the hill-tops, and the sun begins to gild them with his rays. Napoleon and his Marshals discover very distinctly the two hills, lying north and south of Pratzen, abandoned by the left of the enemy; on that of the two south of Pratzen, where lately there were 41 battalions and 59 squadrons, not a man is to be seen. At the same time they discover a heavy column marching from the centre to the right, in the direction towards an imaginary point, situated one mile east of Kroug. From this moment it was perfectly certain that the Allies had left a large weak interval of more than four miles on their centre, exposed to all the blows which might be dealt on it; that the enemy had followed the second course—was about to attack at Sokolnitz, Telnitz, and beyond Telnitz, with an immense left wing to turn the French right; that he was about to direct a minor attack on the left wing of the French also, was in fact attacking with his two wings. Hence it became clear that the second plan of battle, to execute which all the preparations had been made, was to be adopted.

Hence also the two hills north and south of Pratzen became the French offensive decisive point of the field of battle, and that these formed an offensive decisive point of very great excellence is clear from a consideration of Chapter IV. to which the reader is referred.

It was now eight o'clock of the morning of Dec. 2d. Napoleon asks Soult how long it will take him to gain the table lands on the tops of the two hills north and south of Pratzen, directing himself in the manner already explained. Soult replies, "Twenty minutes." "Wait awhile," observes Napoleon; "when the enemy occupies himself in making a false movement he must not be stopped."

Soon a violent musketry fire is heard from Sokolnitz and Telnitz, and an aide-de-camp galloping up informs

Napoleon that an immense mass of the enemy is approaching those places in three columns, and that the heads of the columns are deploying as they arrive, and attacking with all vigour. The moment had now arrived which Napoleon was waiting for, and he gives the signal. Immediately Soult, Lannes, Murat and Bernadotte start at full gallop; doubtless they were not men to make themselves be waited for at such a crisis. Napoleon rides to the centre, and as he passes along the line raises the enthusiasm of the men still more by the following words, "L'ennemi vient se livrer imprudemment à vos coups, terminez la campagne par un coup de tonnerre."

It has been already said that the black lines in the valley of the large brook represent Soult and Lannes in line of columns of attack.

In less than half an hour after the time the Marshals left Napoleon, Soult, Lannes, Bernadotte and Murat had advanced without opposition, and formed the line of battle in the position in which it is painted dark red, and in which position the first shock took place along the centre and left of the French. It has been already said that the position of the whole French line at the time the first shock took place along the centre and left of the French is given in plan, and coloured dark red; while the Allies' line at this same moment is coloured dark yellow. It will be seen that the heads of the columns on the Allies' left had already begun to debouch from Telnitz and Sokolnitz, and that Davoust was about to give them a reception; for the first shock on the French right preceded by about three quarters of an hour the first shock on the French centre and left.

Before continuing the course of the battle it is necessary to state how the Allies came into their new dark yellow position.

Beginning with the left of the Allies' line:—

The tactical line (dotted) by which Kienmayer moved from his first position *a* to his second position is given in plan.

The tactical line by which Doctoroff moved from his first position *b*, to form the southernmost of the three dark yellow columns, is also given in plan.

The tactical line by which Langeron moved from his first position *d*, to form the middle of the three dark yellow columns, is given in plan.

The tactical line by which Przibychew moved from his first position *e*, to form the northernmost of three dark yellow columns, is given in plan.

The three columns of Doctoroff, Langeron, and Przibychew, and Kienmayer's corps contained one-half of the whole army, in number 35,000 men.

It has to be remarked that the columns of Langeron and Przibychew crossed and hindered one another somewhat about Sokolnitz; for Langeron, who ought to have directed himself between the two villages of Sokolnitz and Telitz, directed himself on the Chateau of Sokolnitz.

The tactical line by which Prince Lichtenstein with the cavalry mass moved from his first position *c* to his second position is given in the plan. In the Allies' dispositions for the battle, it was arranged that he was to pass behind the centre, and assist Bagration on the right.

The tactical line by which Kolowrath moved from his first position *f* to his dark yellow position is given in plan. He is represented in plan in part formed in line and in part still in a column of march; for Soult, on arriving at the tops of the two hills, came unexpectedly on Kolowrath while he was marching in a column by pelotons towards the left wing, to which he was to have been a reserve according to the Allies' dispositions. Kolowrath's column was, on the apparition of Soult's Corps d'Armée in line of battle, formed immediately in great haste, or rather the attempt was made to form it.

A similar crossing and hindrance to that which happened to the columns of Langeron and Przibychew happened also to the column of Kolowrath and the column of Lichtenstein; for the advanced guard of Kolowrath, formed by a Brigade under Kamenski, was obliged to stop on the top of the hill south of Pratzen till Lichtenstein's column had passed by. This advanced guard is represented on the plan in the position in which it was obliged to stop for Lichtenstein to pass by, and is represented in the plan by black lines not painted; from that position it

had to form in haste on Soult's appearance on Kolowrath's left, in which position it is painted dark yellow.

The tactical line by which the Grand Duke Constantine moved from his first position *g* to his second position is given in the plan.

The tactical lines by which Bagration, with the right of the Allies, moved from the first position *h* to the second position, are given in the plan. It will be seen by the plan that Bagration's position was such that it was clear he intended to turn the left flank of the French.

Having, then, seen how the two armies arrived in the dark yellow and dark red positions, in which positions they were when the decisive moment had arrived, and the decisive shock took place on the French offensive decisive point of the field of battle, viz. the two hills north and south of Pratzen, it now remains to see the effect of the shock, and follow the two armies to the close of the battle.

With respect to Soult's Corps d'Armée. Scarcely had Soult's line, in columns of attack, climbed the hills of Pratzen, when he fell upon the column of Kolowrath, which, considering itself in reserve, and thinking itself guaranteed by the three columns which preceded it, was advancing in a column of march by pelotons. The Emperor Alexander, Kutusof, and his état-major were with it. Miloradowich, who was marching at the head of the column, scarcely found time to lead his battalions to the attack : as they form they are overthrown, and the Austrians who followed him experienced the same fate. The advanced guard of this column, viz. the Brigade Kamensk, attacked on its right flank as it was marching in haste, formed the left of Kolowrath, as from its position it naturally was obliged to do. The column, as might be expected, thus surprised and ill formed, could not resist Soult, with the divisions St. Hillaire, Vandamme, and the Brigade Levasseur, is driven rapidly back on Hostiradek, and thence, menaced with being driven into the marshy valley, retreats to Wischau, and has no more to do with the battle. As soon as Kolowrath retreated on Wischau, there was a clear gap of three miles in the centre of the Allies' line.

With regard to Bernadotte.

The Grand Duke Constantine, instead of contenting himself with defending the hill on which he is in his dark-yellow position in an orthodox manner, thought it necessary to descend into the valley, to meet Bernadotte on equal terms. Bernadotte, assisted by the Reserves and the Cavalry of the Guard under Bessières, whom Napoleon sent to his assistance, defeats and drives back the Archduke, who was very inferior in numbers to his opponent. The Archduke falls back behind the brook before Austerlitz. (See plan.)

With regard to Lichtenstein's cavalry.

Lichtenstein, applied to for assistance by Kolowrath and the Grand-Duke, and his original destination being the right, where he was to assist Bagration, and being also sent for by this latter, scarcely knows what to do. At last, however, thirty of his squadrons, under Ouwarof, are placed, after a very long promenade, between the right of the Arch-Duke and the left of Bagration, and a portion sent to the assistance of Kolowrath arrive in time to see and share the defeat of his column.

With regard to Lannes and Murat. These two together succeed in beating Bagration and Ouwarof, and, according to the plan of battle, turning the left flank of the Allies' right, and driving it back into marshy ground into the position in which it is painted dark orange in the plan.

With regard to Davout. He, in the meantime, forming his men into crescents, places them on the hills behind Telnitz and Sokolnitz, with the concavities of the crescents turned towards the outlets, and hinders the Austro-Russian columns from debouching by a concentric fire and by charging their flanks.

As soon as the Grand-Duke was broken and in retreat, Bernadotte is left to look after him, and Napoleon with the Guards and Reserves now executes a change of front, pivoting on his right and advancing, and proceeds to second Soult, who, as soon as Kolowrath was broken and retreated on Wischau, had pivoted on his right and executed a change of front advancing. In this way Soult and Napoleon took the three columns of Przibythew, Langeron, and Docto-roff, and Kienmayer's corps, containing one-half the Allies'

army, in flank, reverse, and rear, and drove them ultimately into a position with their backs to the Lake of Satchan, and following the curve of the shore, in which position they are painted dark orange. Napoleon placed a large battery on the slope of a hill at Aujesd, to sweep the ground between it and the Lake of Satchan, thus interdicting retreat by the north shore of the lake. The results were that the Division Przibychew, surrounded in Sokolnitz,—for Davoust was now advancing, and changing his defensive for the offensive,—lays down its arms. Langeron is only able to save one-half his column, which was cut in two by Soult's division Vandamme. Doctoroff and the other half of Langeron, in all twenty-eight battalions, placed along the shore of the Lake of Satchan, following the curve of the shore and between the lake on the south, and Soult and Napoleon, with the Reserves, forming a parallel line of battle along the heights on the north, with Davoust menacing its left flank, and retreat interdicted between Aujesd and the Lake of Satchan, had nothing else to do but march under the French fire along the bank of the lake as they best could, and, crossing the narrow slip of ground between the two lakes, gain Satchan. This they did, experiencing an immense loss. The artillery endeavoured to escape by crossing the frozen edge of the lake; but the ice, injured by the French cannon balls, broke under the weight of the mass, and 2,000 men were drowned. The remains of the enemy's left took the road to Czertsch over the mountains, hotly pursued.

The loss of the Allies was 25,000 killed, wounded, and prisoners, and 180 pieces of artillery. The loss of the French was 7,900 killed and wounded, and 763 prisoners, so that the loss of the Allies was to that of the French in the ratio of 3 to 1, about!.

The position of the Allies' line, driven back in all directions, and the left, which contained half the army, entirely separated from the centre and right, at the time when Doctoroff and the half of Langeron were so nicely enclosed with their backs to the Lake of Satchan, is painted dark orange. The corresponding position of the French is not given, because it is not wished to confuse the plan too

much. As the right and centre of the Allies retreated to their orange position, Lannes, Murat, and Bernadotte had made a corresponding advance, and the positions of Davoust, Soult, and the Reserves, may be inferred from what has been already said. Langeron and Doctoroff escaped along the tactical line of retreat drawn in plan, through the narrow slip of ground between the lakes and passing through Satchan, with all the men they could save.

As an example of a flagrant violation of Principle I. and its consequences, the account of the battle of Stockach, in 1799, may be read.

The history of the three days of Abensberg, Eckmuhl, and Ratisbonne, furnishes an example of operations with scarcely any, if any, parallel in the military history of the world. Owing to a strange fault on the part of Berthier in miscomprehending the Emperor's orders, Napoleon's army was on very exterior lines, the army of the Archduke Charles on very interior, and the destruction of the French army seemed certain, but Napoleon, *advertized at Paris in less than forty hours, by the Telegraph which he had caused to be constructed, of the passage of the Inn by the Austrian army*, started instantly, changed the exterior lines his army was on for very interior lines, and broke the Austrian army in the battles of Abensberg, Eckmuhl, and Ratisbonne, and the combats of Thann and Landschut, by throwing the mass of his army on fractions of the enemy successively.

As another example, the account of Blucher's operations on the Marne, in 1814, may be read. That Marshal divided an army of 60,000 into four fractions of 5,000, 15,000, 19,000, and 21,000, and separated these by large intervals. The result was, that Napoleon, with a very inferior army, overwhelmed these fractions successively, in the combats of Champ-Aubert, Montmirail, Chateau-Thierry, Vau-champs and Etones, which cost Blucher 20,000 killed and prisoners.

The following extract from the history of the Wars between Charles the First of England and his Parliament, is

given in exemplification and illustration of the Principle III. Case 8, especially, and of Principles I. II. and Principle II. Case 5 :—

Essex and Waller had orders to march their combined armies towards Oxford, and if the King retired into that town lay siege to it, and thus by one enterprise put an end to the War. But the King, judging rightly that it is the part of an inferior army to manœuvre, in order either to induce the enemy to commit faults or catch the enemy in them, and thus, though inferior numerically, have always a majority on the points of collision, left a very large garrison in Oxford, the place requiring a very large garrison, and retired on Worcester. The armies under Essex and Waller then separated, and thus the King had already diminished the force he would have to contend with on the point of collision by one-half. Essex went towards Cornwall, took Taunton and Weymouth, and caused Prince Maurice to raise the siege of Lyme. Waller with his army marched in pursuit of the King towards Worcester, and actually came within three miles of the King's camp near that place, which camp was, however, on the opposite side of the Severn, without knowing that the King was there. Waller is then deceived by false intelligence which the King had set about, that he (the King) had marched on Bewdley and was directing his army on Shrewsbury, and Waller, in order to anticipate the King at Shrewsbury, hastens by forced marches to that place. The King's strategical position near Worcester was wisely taken, for he hoped to deceive Waller as to his intentions, and make him believe he was gone to Shrewsbury, and consequently induce him to direct his army on that place. If this hope were realized, then the King intended returning back again along the strategical line he had followed from Oxford to Worcester, to Oxford, unite himself with the large garrison of that place, and thus apply Principles I. and III., by going with his army so reinforced in pursuit of Waller, thus turning the tables on the Parliamentarian, and then, having overthrown Waller, go after Essex and defeat him in succession. It is clear that by this manœuvre the King would assume interior lines between Essex, marching into Cornwall, and

Waller hastening to Shrewsbury, and that he had as well cut both from their base of operations, which was *London and the Eastern Counties*, in application of Principle I. to say nothing of the mental and psychical effect of it on the Parliament and London. On the other hand, if the hope of thus deceiving Waller were not realized, a large river was placed between him and Waller, more than capable of compensating for his inferiority if Waller attempted to attack, and would besides afford him an opportunity of showing Waller the same trick he afterwards did, as will be seen, at Cropredy Bridge.

Waller, then, as it has been said, was deceived by the false intelligence, and hastened by forced marches to Shrewsbury. The King returned from Worcester to Oxford by the same strategical line he had pursued in going thence to Worcester, united himself with the garrison of Oxford, and now marched toward Banbury in search of Waller. The two armies came in sight of one another at Cropredy Bridge, near Banbury, the river Carwell running between them. The King arrived first on the Carwell, but he neither attempted to cross the river, or destroy Cropredy Bridge. Waller arrived in the afternoon. The next morning the King pretended to retire on Daventry, and Waller thought him in full retreat, but he was, in fact, only applying the Principle III. Case 8. Waller began to cross the bridge in pursuit, but as soon as that fraction of his army which the King thought it would be most expedient to engage had passed the bridge, the King returned and attacked it vigorously with his whole army, and drove it into the Carwell. In this attack the King as well applied Principle II. Case 5. Waller's army, stunned and disheartened by this blow, and *by want of confidence in the general, without which the finest army in the world can never do anything great*, dissolved by desertion, and the King, finding he might leave Waller to go back to the Parliament without his army, reinforced his army with all the men available from his garrisons, and marched after Essex. That General had directed his army towards Cornwall, at the instigation of one of his subordinates, a Lord Roberts, who had estates in Cornwall, and wished to get some rents

out of them *—so wise and great a general was Essex, and on such paltry intrigues do the destinies of armies and nations hang, when not presided over, under God, by honest men of the right stamp. The King followed Essex into Cornwall, and that general, finding himself completely cut from his base of operations by a superior army, and his provisions growing scarcer and scarcer every day,—in fact, that position which the ablest generals of all times have agreed to be a preface to the destruction of any army,—and with the sea behind his army, escaped with a few of his principal officers to Plymouth, leaving his army to fare as it might. The Cavalry under Balfour, favoured by a dense mist, escaped, but *the whole of the baggage, artillery, and ammunition, fell into the hands of the King.* The Infantry under Skippon obtained a convention, under which *they were to lay down their arms*, and go home quietly. There was, however, no stipulation that they were not to serve again in the course of the war. Yet these infantry, thus *compelled to lay down their arms before an enemy*, were indeed brave and true soldiers, for many of them, when under Cromwell they gloriously retook the artillery they had lost in Cornwall, recognising their pieces, embraced and wept over them,—so greatly did these men feel the disgrace, the ignorance cowardice and imbecility of their generals had brought on them, and such was the affection which, with the instinct of true soldiers, they bore to their arms.

The surrender of Essex's army took place two months after Cromwell and his Independents had obtained the decisive victory of Marston Moor in the North, and thus did the King, by these wise and able strategical and tactical operations, realize in the West the worst fears of the Parliament, and of one who, judged by his acts, was the most extraordinary, powerful, and self-reliant man that ever trod on British soil.

Obs.—Charles was doubtless an able strategist and tactician, and a brave soldier, equal, perhaps, to his gigantic subject as a strategist and tactician, as well as in courage, as far as that quality is purely physical. But Napoleon has said that the mental and psychical qualities of armies

* Clarendon.

are to the physical in the ratio of three to one in point of importance, and that general who, however able in other respects, is incapable of exciting the enthusiasm and confidence of his soldiers, is only an ignorant officer; (see Principle XXIX. and Maxim 7,) and the extraordinary courage, indefatigability, and resolution of the mighty Englishman, with that enthusiasm unmatched in the annals of the world, and that confidence he knew how to communicate to his soldiers, *attest and perhaps taught these truths, for the life of the English Lord Protector was a favourite study with the democratic Emperor of France.* The courage, endurance, and indefatigability of Cromwell were, from his own account, derived from mental and psychical sources, and these so derived are always *most intense, as they are necessarily most equable.*

The three following examples of Principle III. Case 8 may also be mentioned, that the student may know where to find other examples than the preceding, if he wish to refer to any.

In the first Italian campaign of General Buonaparte, when he descended the right bank of the Po to Plaisance, and crossed that river, he was compelled to pass his army in boats and barges, not having the means of constructing a bridge. The process was, therefore, long and tedious, and an opportunity was afforded to the Austrian General Beaulieu to have attacked that part of the French army which had crossed which might appear to him most expedient; but Beaulieu, with the temporizing spirit ordinary to extreme age, (for he was already an octogenarian,) only took half measures, and lost his opportunity.

In 1809 the Archduke Charles succeeded in separating the French army in two by destroying the bridge over the Danube by which it was passing, a portion only of the army having as yet passed. This was done by letting loose and giving to the current some of the floating mills which are found on the Danube. Then the Archduke, forming a concave line of battle, attacked with his whole army, and with the concentric fire of three hundred pieces of artillery, the portion of the French army which had crossed before

the bridge was broken, and drove it back into the Isle Lobeau.

Before leaving the Principle III. Case 8, it remains to be said that when the enemy is crossing a bridge, not only is the whole of the army to be thrown on the portion of the enemy which has passed, and which is of that size which it is thought most convenient to attack, assuming naturally for the purpose a concave line of battle, which will have the advantage of a concentric fire, but all efforts have at the same time to be made to destroy the bridge, by giving to the current large barges heavily laden with stones, great rafts made of large trunks of trees, &c. some of which, if not all, will, if the stream be strong, strike against the bridge, and it is hoped will break it.

The following sketch of the battle of Friedland may be given in illustration of Principle I. Case 2, Principle III. Case 3, Principle V., and Principle II. Cases 2, 5.

In this battle the Russian line of battle was of the convex order, about $6\frac{1}{2}$ miles in length, and formed before a reentering angle of the river Alle, so that the line of battle and the reentering angle of the Alle formed approximately a sector of a circle. About the vertex of the projecting angle of land which fits into the reentering angle of the river, the town of Friedland is situated, between the vertex of the angle of land and a large pond or lake of which mention will be made, and on either side of this lake, to about one quarter of the length of it, measured from that end of the lake towards the vertex of the angle. The Alle was not fordable, and there was a bridge about one-fifth of the whole length of one of the sides of the projecting angle of ground from the vertex, and this was the only communication by which the Russians could retreat over the Alle in case of defeat. The bridge may then be said to be situated at a distance of approximately one-fifth of the length of one of the bounding radii of the sector of a circle from the centre of the circle.

The projecting angle of ground which fits into the re-entering angle of the river was nearly bisected by a large brook with its ravine, and by a long large pond or lake $1\frac{1}{2}$

mile in length, and about 300 yards wide, through which the brook flowed into the Alle. This large pond or lake, then, bisecting the angle of ground, and the large brook, formed a serious natural obstacle, intersecting at right angles the Russian tactical front. Draw a line bisecting the angle of the sector of a circle, then this line gives the approximate position of the large long pond, and of the large brook and its ravine.

The Russian line, of a convex order as it has been said, was formed along a ridge of hills, which of course did, as well as the Russian line itself, form out with the reentering angle of the Alle and bound an approximate sector of a circle, but the sectorial area of ground behind these hills, and in which the town of Friedland was situated, was low, and commanded by the hills.

Then, taking what has been said into consideration, and the reader having, if he pleases, made a diagram, it is clear:—

1. That the Russians have violated Principle I. Case 2, by assuming a tactical front intersected by a large brook with its ravine, a large pond $1\frac{1}{2}$ mile in length and 300 to 400 yards wide.

2. That in order to apply the Principle III. Case 3, and Principle V., in attacking the Russians, the mass of the French army must be thrown on the fraction of the Russian line (approximately one half) on one side of the large brook and pond, while the other half must be contained by as small a portion of the French as possible, profiting by the accidents of the ground, tactical pivots, &c., and by large and well-placed batteries.

3. That Principle II. Cases 2 and 5, must be applied by directing the mass on that half of the Russian line which lies *on the same side of the large brook and lake as the Bridge.*

4. That some portion of the circular arc of hills on the Bridge side of the pond is the decisive point of the field of battle.

5. That the decisive point gained, the position of the Russians is desperate, and that the more they are driven back the more crowded will they be together,—the less

the length and greater the depth of their line, and the greater the ravages of the concentric fire of the French artillery.

Hence we find that Napoleon contained the one-half of the Russian line on the side of the lake opposite to the bridge, and even suffered the Russians to obtain a trifling advantage, directed the mass of his forces on the other half, drove its fragments over the bridge, seized the bridge and town, and then, turning the mass of his forces on the other half, whose only line of retreat was seized, drove it into the Alle, with total loss of its artillery.

The Russians had 30,000 killed and wounded.

Here follows the Peace of Tilsit.

The relation of that portion of the battle of Wagram which took place on the afternoon and evening of July 5th, 1809, furnishes an excellent example of Principle I. Case 3, and Principle III. Case 5. It must be remembered that the day the French gained the victory at Wagram was the 6th; on the evening of the 5th the French were repulsed with loss.

July 5th.—The Archduke Charles occupied the excellent position of the Russbach, with 120,000 men, his line of battle extending from Gerasdorf to Neusiedel, and being in length about ten miles.

On the afternoon of the 5th Napoleon gave the order to force possession of the position of the Russbach.

Massena is directed on Breitenlee.

Bernadotte on Wagram.

Eugene between Wagram and Baumersdorf.

Oudinot on Baumersdorf.

Davoust on Neusiedel.

Bernadotte, Eugene, and Oudinot, attack the portions of the Austrian line on which they are directed, *before* Davoust is ready to attack at Neusiedel, and the columns of the three former do not arrive simultaneously in face of the enemy's line. Hence the Archduke Charles, whose field of battle possessed that of the requisite properties of a good field of battle among others which requires that the field should be such that, while it covers the move-

ments of the army, shall expose as much as possible those of the enemy, holding the half of his forces disposable, throws them first on Eugene, next on Bernadotte, then on Oudinot, who was unable to maintain himself at Bau-mersdorf. Eugene was driven back, then Bernadotte, then Oudinot.

Here, then, was Carnot's celebrated *strategical* operation imitated *tactically* by the Archduke.

The following account of the Pultowa campaign is given in illustration of Principle II. Cases 3, 5, Principles XXIV. XXXII. XXXIII. XLIX. L. and Maxim III.

The great fault which led to the overthrow of Charles XII. at Pultowa, the destruction of his vast military power, and shameful termination of his career, was a contemptuous disregard and abandonment of his line of operations without having previously established a new one, and that too at a time when one of the most valuable convoys of which history furnishes an example, consisting of the immense number of 8,000 wagons, containing ammunition, provisions, and money, escorted by 15,000 men, was moving along the abandoned line of operations to join him. Charles's line of operations was the great road leading from Grodno by Leda, Minsk, Borisow, Orscha, Smolensk, and Wiasma, to Moscow, with its subsidiary side roads.

Charles crossed the Niemen, six miles from Grodno.

June 25th, 1708.—Charles forced the passage of the Bere-sina at Borisow, the Beresina being the next great river east of the Niemen.

Marching along the great road towards the Dneiper, Charles defeated 20,000 Muscovites, intrenched behind a vast marsh, protected by a river, at a place called Hollosin.

Peter the Great left the above-mentioned great road, which has been said to be Charles's line of operations, at Kochanow, and took the great road which leads southwards, and passes the Dneiper at Mohilew. Charles pursued by the same road, and passed the Dneiper after the Russians at

Mohilew. Peter turned northwards from Mohilew, and retreated on Smolensk.

Sept. 22d, 1708.—Charles attacked and defeated a body of 20,000 Russians at Smolensk.

At Smolensk, Charles was again on the great road which was his line of operations, and after the Victory of Smolensk, the line was perfectly safe. Levenhaupt was on the line of operations, advancing as rapidly as he was able with his immense convoy,—8,000 wagons of ammunition, provisions, and money, and 15,000 men for its protection. The Swedish Generals used the utmost exertions and entreaties they dared with the King to induce him to remain at Smolensk and await the arrival of Levenhaupt with the convoy, for Levenhaupt was to arrive in about six or seven days, and the gigantic convoy would put the army in a position to face all its necessities and reasonable contingencies. But Charles, abruptly quitting his line of operations, turned suddenly southwards, and marched towards the Desna, to a place which Mazeppa, Prince of the Cossacks, and hero of the celebrated equestrian ramble, had appointed as the point of junction for their two armies. The King sent orders to Levenhaupt to hasten to him with the convoy to the point of junction on the banks of the Desna. The difficulties the Swedes had experienced on the great road were nothing in comparison with what presented themselves as soon as the army commenced its southward march;—a marshy forest, to the distance of 150 miles, had to be passed, trees had to be cut down, and the army wandered 90 miles from the road it was to have taken before the error was discovered. The small time Charles would have had to wait for Levenhaupt and the convoy is manifest from the facts that he did not leave Smolensk till Sept. 26th, and that Levenhaupt having received his orders to turn southward, and march to the point of junction, leaving the great route of Moscow at Kochanow, and passing the Dneiper at Mohilew, was on Oct. 5th at a place called Lesno, having left Mohilew 60 miles behind him. Since Charles, then, on marching southward, found such immense obstacles to his march,

it is only fair to conclude that Levenhaupt, with his 8,000 wagons, found considerable obstacles, and hence that the march of Levenhaupt, after turning south, was slower than if he had kept in the direct road to Smolensk, which was the largest road in the Russian Empire; and, therefore, it appears certain that Levenhaupt being, on Oct. 5th, 60 miles past Mohilew, on his march southward, the King, had he waited at Smolensk and allowed Levenhaupt to proceed on the direct road to join him there, would not have had more than six days, at most, to wait, and these days were bringing no advantages worth mentioning to the Russians. Had Mohilew been named as the point of concentration for the convoy with its escort and the army of the King, the delay might very probably have been decreased to four or five days.

Peter, seeing that Charles had abandoned his line of operations, and knowing of the existence of the gigantic convoy, determined to throw the mass of his forces on the important fraction of the Swedes under Levenhaupt, thus exposed to all the blows his whole army could deal it, and this the more that, (as will be seen from measures which he will in the course of the narration be found to have taken,) he had the strongest reason to believe that if he could prevent the provisions and ammunition in the convoy reaching Charles, the ruin of the latter, now employed in losing his way and burying himself and army in an unknown and most desolate country, would be consummated. Accordingly, when Levenhaupt was near Lesno, the Czar appeared at the head of 40,000 men, having left orders to General Beyer to follow as soon as possible with 20,000 more. The Czar, who never encountered any danger from which he could not perceive a reasonably remunerating advantage, and remained as firm as any man before any danger whatever when he could, knew that if with 40,000 Russians well handled he could not maintain his ground against 15,000 Swedes, embarrassed by an immense convoy, the sciences and arts, particularly the mechanical manufactures and improvements which the labours of his whole life had introduced, were lost to his vast barbaric empire. The unyielding man seemed to feel that a moment was at hand

when all the iron firmness and cool determined valour of his powerful nature were to be called forth, to seize the opportunity which his genius, foresight, and painstaking labours had prepared. Peter was fully aware of the truth of the Principles XXXII. and XXXIII., and whereas at the final battle of Pultowa 72 pieces of artillery—an immense number in those days—swept the Swedes from the field, so in the series of engagements which terminated in the capture of the convoy he owed much of his success to that *most* important arm. So great was the prestige of the Swedish arms that the Czar felt the only way of overcoming the fears his men entertained of the Swedes was to make it more dangerous for them to retreat than to hold their ground, and accordingly placed a reserve behind his line of battle, with a powerful, well-placed battery in a commanding position, whose mission it was to fire on any one who should attempt to fly; he also decreed that any one found plundering should be punished with death, and at the same time, willing to profit by the whole power of fears, punishments and rewards, like a crafty politician as he was, promised rewards to all as soon as the victory should be obtained. Levenhaupt, without hesitating, marched to the attack, and 1,500 Russians went down at the first onset. Confusion began to introduce itself into the Russian army, but the Czar, repeating his injunctions to the reserve to fire even on himself, if he retreated, rallied his troops in person. Levenhaupt did not think proper to attack the line which the Czar in person had formed, and hoping that he had done enough to prevent the Russians from desiring to follow, continued his march to join Charles.

The next day at eleven o'clock the Czar attacked Levenhaupt, when he and the convoy were on the border of a marsh, thus applying Principle II. Case 5. The Czar extended his line so as to envelop the Swedes with his fire—a proceeding sanctioned by the marshy irregular nature of the ground, and the necessity Levenhaupt was in to protect the convoy,—thus seizing the greatest front of fire possible, and that concentric, *as well with double the numbers of the enemy to attack the enemy on both wings*

simultaneously is in accordance with the principles of Tactics. The battle lasted two hours : the Russians fell fastest, but no one fled, and the prestige of Swedish invincibility was beginning to pass to the things that were.

At four o'clock Beyer arrived with his detachment, and the battle recommenced with greater determination than ever on the part of the Russians, and the Swedes, broken and in disorder, were driven on the convoy. Night put an end to the battle, and the Swedish General, having rallied only 9,000 of his 15,000, retired, during the night, to a strong position, *having previously set fire to the gigantic convoy.* The Czar succeeded in saving 6,000 of the 8,000 wagons, which, with their contents, he of course appropriated to his own purposes. The next morning the Czar ordered the *fifth* attack, and 4,000 Swedes were killed, wounded, or prisoners ; the remainder, in number 5,000, however, crossed the Lossa, a river that flows into the Dneiper, and escaped. In these five battles the Swedes lost as many as the Russians, and the immense convoy ; and they lost, too, the prestige of invincibility, and we know that mental and psychical force, which is generally, though obscurely and improperly perhaps, called moral force, constitutes three-fourths of the strength of armies. Instead of Mazeppa, the Prince of the Cossacks, bringing to Charles at the point of junction on the banks of the Desna 30,000 men and immense stores of ammunition, provisions, and gold, as he had promised, he brought next to nothing ; for the Czar, having penetrated his alliance with Charles, not having neglected the Principle XXIV., had destroyed his army, burned his towns, pillaged his treasures, and executed his chief friends. Charles's plan had been to base himself on the Ukraine, the country of the Cossacks of which Mazeppa was Prince, and the next summer march to Moscow, thus changing his line of operations ; but the Czar had learned his plan and taken his measures, and it was only a fugitive that he had been hastening to meet at the rendezvous of the Desna : no new base or line of operations existed ; and the needless abandonment of his first line before his junction with the convoy, which was only a question of five or seven days at

most, (and time was no object, as his plan was not to go to Moscow till the next summer,) left him without ammunition, provisions, or money, and indeed hardly any artillery, for he had managed to get most of it lost in different bogs. The battle of Pultowa, though it gave proof of the military genius of Peter, was but a result, for the fate of the King of Sweden was decided, and he learned too late that no man, however brave and chivalrous, can, with impunity, violate the Principles and Maxims of War. It is to be remarked, that throughout the whole of the campaign Peter acted as far as possible up to the Principle XLIX., and profited by every opportunity of engaging in insignificant combats, which, while they decided nothing at all, rendered by degrees his troops experienced and warlike, and always cost the enemy more in proportion than a great battle. As well, Peter made good use of field fortifications, and profited by natural obstacles, in accordance with Principle L. Charles's vanity induced him utterly to disregard the Maxim III.; and whereas Napoleon operated in the presence of an army of peasants with the same caution as if Hannibal were before him, Charles, inflated by a mad and presumptuous vanity, committed, with the utmost heedlessness, fault upon fault, and folly on folly, in the presence of a man to whom Nature had been eminently lavish of every quality which constitutes the character and bent of a great general.

The disasters of Charles were brought to an end by the celebrated battle of Pultowa, a brief sketch of which is given in the chapter on Fortification; it was obtained by brilliant applications of Principles XXXII. XXXIII. L., and of the Principles of Fortification, a correct knowledge and application of which enabled the Czar to occupy a tactical front impregnable for the defensive, and which did not at all hinder offensive action when the decisive moment arrived. Indeed, Peter seems to have taught the Russians to believe in the Principles XXXII. XXXIII., and they have always been attentive since his day to the number of their pieces of artillery. The Russians showed Napoleon the necessity of augmenting his artillery if he would save his infantry and cavalry, and win battles

against them. Principle XXXIII. states, on the authority of Napoleon, that the better the infantry, the more numerous should the artillery be. Hence the British artillery should be more numerous than any other. Guns do not appear to be expensive, and neither eat, drink, or require pay or clothing. It is hardly likely the British infantry will allow their batteries to be taken. The batteries should be made to do the work as far as possible, and the infantry will protect the batteries. Perhaps six guns to every 1,000 men would not be at all too much for the British army.

It has been already said that there are three ways of containing one portion of the enemy, while the mass of the army is thrown on the remaining portion, and that one of these is by distance or time. When the enemy violates Principle I. Case 4, then it is clear an opportunity is afforded of containing the enemy by time.

It was in consequence of Marmont's violation of Principle I. Case 4, dictated by a wish to cut the British army from its line of retreat, that the Duke of Wellington was enabled to win the battle of Salamanca (the best battle he ever won) by throwing the mass of his army, or at least a much greater fraction of his army, on the left of the French, which was separated from the centre and right by a large gap of more than a mile, and by so doing to overwhelm this isolated left. The isolated left of the French was attacked in flank as well as in front, in accordance with Principle III. Case 11. A most able, accurate, yet poetical account of the battle of Salamanca, is to be found in Sir W. Napier's History of the War in the Peninsula.

As a further example to Principle I. Case 4.

In the campaign of 1757 the Austrian army, under the Prince of Lorraine, was covering Prague. The Prince perceiving that the Prussians, under Frederick, were endeavouring to overlap his right wing, ordered the infantry of that wing to execute a change of front and form a crochet, the angle of the crochet being at the right extremity of the centre, and being nearly a right angle, and the angle being towards the enemy—that is, the crochet was formed towards the rear. The requisite

movement in the presence of the enemy was not executed without some disorder. The heads of the columns marched too rapidly, the distances became too long, and the columns surpassed their proper length. The columns formed on the right, and the proper distances being again assumed in forming the line of battle on the right, a gap of about 1,000 yards was consequently left at the angle of the crochet. Frederick ordered a Corps d'Armée to enter by the interval, and the right of the Austrians, thus divided from the centre and left, was overwhelmed and destroyed. This manœuvre decided the success of the battle, and the Austrians retreated into Prague with loss of 16,000 men and 200 pieces of artillery.

As further examples of Principle I. Case 5, and Principle III. Case 7 :—

In 1799 Championnet commanded the French army in Italy. He sought to cut the Austrians under Melas from their communications by placing his army between them and Turin. To do this he had recourse to the odd expedient of dividing his army into several columns, which he sent to turn the Austrian army and unite in its rear. Melas, who found out the project, fell back quickly, and Championnet supposed him to be in full retreat, but his real object was *to seize the point of concentration of the isolated columns*, and defeat them separately by his great numerical superiority in each combat, which he did. This manœuvre gave Melas the possession of Piedmont.

An excellent opportunity of applying Principle III. Case 7, occurred in the campaign of 1757, but was neglected by the Prince of Lorraine, who, with an Austrian army of 70,000 men, was covering Prague. Frederick marched on Prague in two columns, of which each had its separate line of operations. The Prince of Lorraine remained inactive, and made no endeavour to anticipate the columns at the point of concentration, which there is every reason to suppose he might have done, and so have defeated them separately.

Again, before the Archduke Charles got so completely out-manœuvred and beaten in the three glorious days of

Abensberg, Eckmuhl, and Ratisbonne, he had an excellent opportunity of anticipating the French columns at their point of concentration, getting among them and defeating them separately, but he failed.

The following examples are given in illustration of Principle I. Case 8, which seems important, as it is a caution against a fault which has often been committed, and into which it does appear easy to fall :—

As the same deviations from the Principles and Maxims of War produce the same disasters in all times, an example will be taken from a somewhat early period in history. At the battle of Raphia, Antiochus having beaten and broken the opposing wing of the enemy, pursued it to a great distance, and only returned to find that Echecrates, one of Ptolemy's Lieutenants, who commanded the other wing of the Egyptians, victorious over the wing of Antiochus opposed to him, had with the Egyptian centre entirely defeated the remainder of his army. Antiochus perceiving the defeat of the rest of his forces, and finding himself unable to engage the victorious centre and remaining wing of the Egyptians, was very happy to retire to Raphia.

The great actor in the second example is none other than the great Englishman "who taught a Pope to preach moderation and humanity to Popish Princes,"—formed and disciplined an army which "came to regard the day of battle as a day of certain triumph, and marched against the most renowned battalions of Europe with disdainful confidence," (an army which *never was beaten*, and to which victory was, humanly speaking, entailed as a prescriptive right,)—crushed the united navies of the Great Maritime Republic and France—compelled, from pole to pole, a forced obeisance to the British flag, and determined that the deep should be navigable only at his will—restrained the bad practices of piratical Mahomedan Beys, and crushed the pretensions of the superstition-eaten Papistical Duke—divided the Gordian knot of Irish affairs by summarily casting out the Priests—raised his native country to a higher rank among the nations than she had ever before attained, or ever since possessed—restrained by his single life that native country

from falling into the abject French province she was under woman-ridden Charles II.,—and, finally, having, in conjunction with Blake, crippled the commerce, and captured or burned the Fleets of Spain, fully persuaded the Pope that during the lifetime of him (Oliver Cromwell), if he did not desist from his heartless cruelties to unfortunate Protestants, a very antipapistical British army would try conclusions at Rome—and during a long and troublous life having uniformly preached and practised, in a dark and bigoted age, the principles of Civil and Religious Liberty in their utmost purity, was buried among the Kings of England with a splendour surpassed at the obsequies of no one of the Plantagenets, while his vast power passed as of right to his son.

On the 14th of June, 1645, Charles I. attacked the army of the Parliament, now remodelled by Oliver, who, two days previously, had arrived from the Eastern Associated Counties, amid the enthusiastic shouts of the whole army. The line of battle of the army of the Parliament was formed along the heights near Naseby Village. On the side of the King, Rupert commanded the right wing, the King in person the centre, and Sir Marmaduke Langdale the left, the Earl of Lindsey the right hand reserve, and Lord Bord the left hand reserve. On the side of the Parliament Oliver commanded the right, composed of cavalry, Fairfax and Skippon the centre, Ireton the left, the reserves were commanded by Rainsborough, Hammond, and Pride. Rupert's wing was composed of cavalry, and it will be seen was not (as was the case at Marston, when Oliver's Ironsides rode him down) opposed to Oliver. It being premised that in those days, before flint-locks had come into use, and armour capable of turning the feeble bullets of those days was retained, cavalry was an immeasurably superior arm to what, owing to percussion-locks, and immeasurably better barrels, it is at present. Rupert's right wing, mainly composed of cavalry, charged Ireton's left wing, also mainly composed of cavalry, and finally broke it, though that brave man and his men made very stubborn resistance, Ireton himself being run through the thigh with a pike, cut in the face with a halberd, shot in

the side with a pistol, and in the calf of the leg with a musket, his horse, too, being shot under him, and himself finally taken prisoner fainting. Rupert pursued Ireton's wing too far, went as far as the village of Naseby, and then attacked the baggage park of the Parliamentary army which was about a mile and a half in the rear, and made into a fortification, defended by infantry, several times. He, however, failed in producing any effect; for the infantry, protected by the wagons, and firing from behind them, resisted stoutly. At length Rupert desisted, and when he got back after his too lengthened stay, found that Cromwell had in the meantime succeeded in destroying (it appears by the first charge) the wing opposed to him, then detaching a sufficiency to hold the fragments in check and pursue, returned and charged the King's infantry which were on the centre in the flank and rear at the same time that Fairfax, apprised of the manœuvre, engaged them warmly in front, and that, in fact, the King's army was, generally speaking, a perfect wreck, which he was happy to join in a very precipitate flight of twelve miles to Leicester, hotly followed. In this battle the number of the Royalists is represented in an official letter to the Speaker of the House of Commons as 12,000, the number of Parliamentarians about the same, so that neither side had half the number it put in line at Marston Moor. The trophies of this battle, fought, according to several works, on the highest table land in England, and certainly almost the exact point which a geometrician might select as the central point of England, and which decided the fate of Charles I., and apparently that of civil and religious liberty throughout Europe, were 5,000 wounded and prisoners, 1,000 killed, the whole of the King's baggage and artillery, and the Royal standard, and what was still of more importance than artillery, baggage, and standard, a cabinet of the King's autograph documents, copies of letters, &c., which, when printed by order of the Parliament, made a sad impression against him, gave in fact a most melancholy view of the Veracity of His Majesty, notwithstanding his often used and favourite expression, "On the Word of a King." The Pursuit was a model of what a pursuit ought

to be, and in full accordance with Principle XLI. it went from three miles short of Harborough to nine miles beyond, even to the sight of Leicester. Harborough Church was on the evening of the day crammed full of prisoners. The loss on the side of the Parliament was under 500 killed and wounded.

The following is an example of Principle I., Principle I. Case 7, Principle VII., Principle I. Case 8, and Principle III. Case 4.

In the campaign of 1760 the Austrians under Marshal Daun occupied an excellent position before the battle of Torgau. The left of the Austrians was at Torgau, the right on the table land of Stipitz, and the centre protected by a large pond, a natural obstacle to intersect the tactical front of the enemy, in accordance with Principle III. Case 4. Frederick divided his army into two parts, one of which he placed under the orders of Marshal Ziethen, and commanded the other in person. Frederick's plan was to make Ziethen attack the centre, while he himself turned the Austrian right, and took it in reverse. But the movement for effecting this being too extended, and there being no connexion between the two parts of his army, the plan of battle was contrary to the Principle I., the Principle I. Case 7, and Principle VII., and he was not long in discovering his error; for Daun, prepared for the manœuvre, placed his army in a favourable position, so as to defeat Frederick's attack, which he did, and forced him to retreat. Daun, having been victorious through the aid of the Principles, now, in opposition to Principle I. Case 8, pursued too far, and by separating himself, with his centre and right, from his left, allowed Ziethen, who, hearing the cannonade become more and more distant, concluded that Frederick's attack had failed and himself in retreat, followed by Daun, to take the offensive. In this way Ziethen brought a superior fraction of the Prussians to bear against the isolated left of the Austrians, defeated it, took possession, first, of the table lands of Stipitz, and then of the whole field of battle. It was after sunset when the King heard of the success of his lieutenant, returned in all haste,

profited by the night to reorganize his army, and on the morrow occupied Torgau. Marshal Daun was receiving compliments on his victory when he learned the success of Ziethen. He gave immediate orders for a retreat, and the next morning, at day-break, the Austrians repassed the Elbe, with loss of 16,000 men and 50 pieces of artillery.

ON PRINCIPLE V.

The three principal ways in which the principle can be applied, viz. 1. By employing lines of natural obstacles forming tactical bases of manœuvres and tactical pivots, and assisting these by field fortifications constructed after the correct principles of fortification. 2. By distance or time. 3. By an augmented fire of powerful batteries.

It seems as well expedient to notice two orders of battle, by the adoption of which on favourable ground the principle may be well applied, and because they are very good orders of battle in themselves. It being premised that a line of battle is always formed along any part of its length of one row of troops, two rows of troops, or two rows of troops and the reserves behind, and the reader being referred to the definition of a line of battle and an order of battle, then the two lines of battle, *a*, *b*, Plan 6, fig. 3, being supposed to represent an enemy to be attacked or fought with, the lines of battle, *c*, *d*, represent the two orders of battle spoken of; the number of lines in the fig. along any part of either of the lines of battle showing that the line is to have more or less strength at that part, as the number of the lines is greater or less. It is clear, then, that it is the right of each of the lines of battle *a*, *b*, which is contained by the left of each of the lines of battle *c*, *d* respectively, for these lefts are held back, so as to keep the weak portions of the lines *c*, *d* as little engaged as possible, and prevent them being attacked in flank, while the strong parts of *c*, *d* are engaged as hotly as possible and outflank the enemy. It is clear that the lefts of *c* and *d* must retire if necessary to keep the lines in the same relative positions with respect to *a* and *b*. A powerful battery must in general play from the left of the strong parts on the centres of *c* and *d*,

before the lefts, which are to contain the enemy only, and thus protect them.

The order *d* is approximately the order of battle adopted by Napoleon at Wagram and at Ligny, and the order he wished to adopt at Borodino and Bautzen.

ON PRINCIPLE II. CASE 3.

The following quotation from the celebrated Montecuculli may be given in proof of this Principle II. Case 3. The opinion expressed in it is the opinion of all great commanders of all times. Montecuculli says :—

"It is *necessary* that the line of operations of an army be safe and well formed; for every army which leaves its line of operations, and has not care to keep this means of correspondence open and secure, marches on the brink of a precipice. The army seeks its ruin, as is proved by an infinity of examples. In fact, if the road or roads by which supplies of food and ammunition, materials of all kinds, and reinforcements come to the army, be not secure from danger, and the magazines, hospitals, and stations fixed and conveniently situated, not only will the army fall away of its own accord, but is exposed to the greatest misfortunes from the enterprises of the enemy."

As examples to Principle XVIII.

In 1644 the Prince of Condé failed in all his attacks on the entrenched position of the Bavarian army. Condé's losses were severe, and recognising the impossibility of dislodging the enemy from his fortified position, he manœuvred to *menace the communications, and the enemy fell back at once*. Hence it is clear, that had not Condé violated the Principle, he would have saved a great number of his best soldiers, and might have selected his own field of battle, or at least attacked on far more advantageous terms.

Again, Massena having failed in his attack on the position of Busaco, turned that position, and Wellington was compelled to fall back. Had Massena turned the position at once, he would have saved 4,000 brave soldiers.

Again, Talavera ought never to have been fought by Victor and the King, for Wellington's entrenched and powerful position was *already turned strategically* by Soult, and the position of Talavera was therefore already untenable. As well the position of Talavera might have been turned tactically in the way Jourdan stated. At Talavera time was bringing great disadvantages to the British; for Soult was descending on their rear, and Victor knew it; while time was bringing great advantages to the French; and if a general will, under such circumstances, or when his enemy is, without his being obliged to strike a blow, obliged already to evacuate his fortified position, attack that fortified position in front, instead of waiting till necessity obliges his enemy to quit this powerful position, and then when his enemy has been obliged to do this, manœuvre on his flanks till a brilliant opportunity presents, or at worst unite the two armies together (Soult's and Victor's), then he deserves, like Victor, to regret the loss of the brave men his incompetence destroys, to see his hopes baffled, and his detestable vanity scattered to the winds.

Marshal Villeroi, on taking the command of the army of Italy in 1701, with extraordinary presumption and incapacity, sacrificed the lives of brave men by attacking the entrenched position of Chiavi on the Oggio, and that impelled *by no show of necessity, and furnished with no justifying reasons*. The whole of the French Generals considered the position inattackable. The result was the loss of the best battalions of the French army.

As an example to Principle XXII. Marshal Turenne lost the battle of Marienthal from having violated this principle, for if, instead of naming Ebshausen as the point of concentration on raising his cantonments, he had named Mergentheim behind the Tauber, his army would have been united much sooner, and as well, instead of the enemy having to do with 3,000 men at Ebshausen, whom he beat easily, he would have had to do with the whole French army, in a position covered by a river.

As an example to Principle XXII. Case 5, the King of Prussia lost in 1758 the battle of Hohenkirch, because he

had encamped in a bad position, and stayed in it six days till he was attacked in it, when he lost 10,000 men and nearly all his artillery.

The following sketch of the battle of Dunbar, is given in exemplification of Principle V., Principle II. Case 5, Principle III. Case 11, Principle XVII., Principle X., and Maxim V.

On Monday, Sept. 2d, 1650, Cromwell's army, ranged in line of battle, followed the base line of the Dunbar Peninsula, which base line, about $1\frac{1}{2}$ mile in length, extends from Belhaven Bay to Brocksouth House. The left of Oliver's army was towards Brocksouth House, which was occupied as a tactical pivot on the extreme left, and the right towards Belhaven Bay. Along the base line of the Peninsula, Oliver's army, in number about 12,000, occupied a tactical front of about a mile and a quarter in length. Before Oliver's tactical front, bounding his position, ran what in the old pamphlets is described as a large deep ditch, 40 feet deep, and 40 feet wide. Along the bottom of this ditch ran a water-course, called the Brock, whose mouth was on Oliver's left towards Brocksouth House. This ditch, with its steep and muddy sides, formed a base of manœuvres before Oliver's centre and right, impassable to cavalry, and with great difficulty to infantry, in face of an enemy. But before his left, for the space of some 200 yards, the Brock was passable for cavalry, the steep slopes of the rest of the ditch being here exchanged for more gradual, so that cavalry could operate. The Brock and marshy ground then formed a tactical base of manœuvres before Oliver's centre and right, and it appeared clear that the attack, which ever side made it, must be made on the left of Oliver's tactical front. Behind Oliver's line of battle was the little Dunbar Peninsula, its base line, as it has been said, only about $1\frac{1}{2}$ mile in length from sea to sea, "a place of plashes and rough bent grass," according to Yorkshire Hodgson, and formed of very uneven ground, and in this stood the tents by battalions forming the camp, and this was all the ground in Scotland of which Oliver was master. The peninsula contained the town of

Dunbar and a solitary farm-house. Oliver's ships were in the offing, with a supply of biscuit and means of transport, if the winds and sea permitted, a matter by no means certain.

On the further side of the Brock from Dunbar, or on the Scotch side, was a narrow strip of ground, capable of admitting the operations of all arms, running parallel to the Brock, but beyond this narrow slip hills rose abruptly, and such that they were only passable with extreme difficulty except by certain passes.

On the morning of the same day, Sept. 2d, the Covenanters under Lesley were occupying all the passes on the tops of the hills, particularly an important pass, that of Cockburnspath, on Oliver's left, which they had made impassable, and were so placed as to be inattackable for an army one-half their number, and whose great strength lay in its cavalry. The number of the Scotch was about 24,000.

This 2d of September was a day of storms and winds, fit to sweep the tents from off the long dank grass on the Dunbar Peninsula, and the Scotch lying on the hills guarding the passes were not likely to be pleasantly affected by those storms and winds. Oliver's position appeared critical: the sea was behind him, from which he might, or might not be able at that season to obtain supplies, and on which he might, or might not be able to embark, and before him an army double as numerous as his own, and occupying the passes of wild, savage, boggy hills, so as completely to enclose him in, and being in a position from which it was very doubtful if it could be dislodged, especially by an army whose great strength lay in its cavalry. Doubtless, Oliver had partially violated the Principle II. Case 5, which seemed, however, justified by the strategical circumstances of the campaign, and no doubt he was in a critical position; but says Charles Harvey, who knew him, "He was a strong man in the dark perils of war, in the high places of the field hope shone in him like a pillar of fire when it had gone out in all the others." Here then there was a man capable of exciting and sustaining the confidence of his army.

In the morning of this Monday, however, Lesley sends

down his cavalry from the hill tops to occupy the narrow strip of ground on his side the Brock, in the afternoon his batteries come down, and indeed his whole army, and he forms his line of battle on the opposite side of the Brock to Oliver, amid wild showers and winds.

Between four and five of the afternoon, Oliver, walking with Lambert in the garden of Brocks-mouth House, watches Lesley's movements, sees him descend and take up his position on the other side of the Brock, by a kind of flank march from Lesley's left to his right, and reinforce the cavalry on his right wing with the cavalry on his left.

It was an ill hour for Lesley when he determined to descend from his position, and attack in violation of the Principles XVII. and X., and Principle II. Case 5.

When Oliver saw the Scots come down, he told those near him "that the Lord had delivered them into their hands." This was a good application of Principle XXIX., and no man ever knew how to explore Maxim VII. better than Oliver; it was even better than the "*L'ennemi vient se livrer imprudemment à vos coups*" of Napoleon before Austerlitz.

Oliver's plan of battle was as follows:—He will attack by his left, forcing the passage of the Brock with his cavalry and some battalions of infantry, along that 200 yards of it before his left where this was practicable, if need be; and with his powerful cavalry attack the right flank of the enemy, in application of Principle III. Case 11, and drive the enemy's cavalry on his right wing over his infantry, and the rest of his line of battle encumbered in the narrow ground between the Brock and the Hills, and will contain him along his own (Oliver's) centre and right, by means of the Brock, across which his artillery and that part of the infantry not destined to the attack on his left will maintain as rapid a fire as possible, in application of Principle V. Oliver determines that the execution of the plan of battle should not have place till the morrow at day-break. It must be remembered that Sept. 2d by the Calendar of those days, is our Sept. 12. The night was wild and wet.

Accordingly in the morning, Oliver's cavalry being placed

wholly on his left, and the left of his line strengthened, Lambert conducts the attack to be made on the Scots' right. The Ironside Cavalry cross the Brock, and immediately the centre and right of Oliver's line open as sharp a fire as possible across the Brock; the artillery opens along his whole line. The first squadrons of the Ironside Cavalry met some resistance from the Scotch Lancers, but the contest was hardly an instant doubtful. Oliver's own regiment of foot too, on the left, likewise charged across the Brock, and a Scotch regiment went down. This charge made by Oliver's regiment of foot is said to have had a great effect in depressing the spirits of the Scotch infantry; however this may be, the Scotch cavalry fled, mostly along the narrow strip of ground between the Brock and the Hills, and over their own foot, while the Ironside Cavalry rode onwards in uncontrolled might. A general charge of horse and foot seems to have been made, as soon as the Scots were evidently wavering and beaten, and Rushworth and others write that they never saw such a charge of horse and foot. The Scotch infantry, enclosed in the narrow strip of ground, was trampled by its own flying cavalry, and by the pursuing Ironsides. The loss of the Scots was 3,000 slain, 10,000 prisoners, 30 pieces of artillery, 15,000 muskets, 200 colours, and all the baggage, and a great deal of ammunition of all kinds.

One further fact deserves to be recorded as an example of Maxim VII. Just as the decisive attack on the right flank of the Scots succeeded, and the wavering squadrons and battalions began to break and fly, the first beams of the level Sun broke over the German Ocean and St. Abb's Head. The rising of the majestic, fructifying, light-giving orb,—that great emblem of the Deity to his creatures on this earth, which rises every day alike on the slave-cultivated lands of Russia and Carolina and the free and sacred British soil, on the superstition and idolatry-darkened lands of Popery and the comparatively enlightened countries of Protestantism,—on the scene of strife at the very moment of victory, seemed to speak to and confirm the faith of Oliver in his God, to teach him afresh what he ever seemed to know so well, and so often acknowledged, "That

the battle is the Lord's ; " and remind him, that God, too, like the great physical emblem of Himself to the inhabitants of this planet, arises every day upon his whole physical and moral Universe, on the evil and the good, the oppressor and the oppressed, the tyrant and the slave. " Let God arise," exclaimed the Parliamentary General, as the first beams of the rising Sun broke on the decisive moment of his victory ; " Let God arise, and let his enemies be scattered."

The following is given in illustration of Principles LII.
XXVIII. XI. :—

Hannibal found that there were two ways open to him by which to advance on Rome, one by the defiles of the Apennines, easy in itself, but occupied by the Roman armies ; the other across the great marshes of Clusium, deemed impracticable, and therefore neglected by the Romans. Hannibal caused the marshes to be sounded, and assured himself that the physical difficulties, although very great, were not insurmountable. The road by the defiles of the Apennines was the longer, that by the marshes the shorter. Hannibal decided for the marshes, and thus furnishes the example of Principle LII. By taking this way, too, he avoided the defiles, where his cavalry, superior to that of the Romans, would have been useless, and thus applied Principle XXVIII. He had also room to hope, that as soon as he had operated his passage, the imprudent Flaminius would offer battle before being joined by his colleague, and that he would thus apply Principle XI.

To determine, supposing the enemy to attempt to turn one wing of the army by one of his wings, in what cases it may be expedient to oppose this manœuvre on his part, by turning his other wing. Clearly only when the tactical base of manœuvres, or difficulties of ground which can be opposed to the enemy, and made use of defensively before the wing of the army which the enemy is attempting to turn, is greater, better, and stronger, than the tactical

base of manœuvres or difficulties of ground before the wing of the enemy which it is attempted to turn.

It is clearly advantageous to retreat for a short distance along the edge of a marsh, of whose existence the enemy is ignorant, and across which a portion of the army with artillery may, by its fire, check, or stop the pursuit.

The following are three remarks of the Marshal Saxe, the Marshal Villars, and Prince Eugene on the Principle XXIV., the Principle XXIX., and the Maxim XI. respectively :—

“ War,” says the Marshal de Saxe, “ ought to be waged without leaving anything to conjecture, chance, or accident ; and in this the ability of a great general is more shown than in anything else.”

Marshal Villars used to say, “ that in war everything depends on frightening the enemy, and as soon as that point is gained, in giving him no time to recover himself.” Villars joined his example to his precepts in this.

Prince Eugene said, “ Councils of War are of no good, except when an excuse is wanted for doing nothing.”

Under perilous and difficult circumstances, a general-in-chief ought not to assemble a council of war, but confine himself to consulting separately the most experienced officers, that he may enlighten himself by their counsels, but *decide* afterwards according to his own views. The general-in-chief will thus have the advantage of acting according to his own conviction, and the secrets of his plans will not be divulged ; whereas, after a council of war, what ought to be secret is frequently divulged : besides, the Principle XXXVIII. is thus preserved from violation.

As an example to Principle XXIII.—It was by violating this Principle that Frederick lost the battle of Kolin, in the first campaign of 1757. In spite of a great display of valour, the Prussians lost 15,000 men, and a great part of their artillery ; the loss of the Austrians was only 500. These numbers will suffice to show that this Principle awards a fearful punishment to its violation.

Cromwell's Worcester campaign presents brilliant applications of the Principles of Strategy and Tactics, and *should and ought to be read in conjunction with* the Part 3 of the Chapter on Fortification, in the relation of that subject to Strategy and Tactics.

Some of the Principles and Maxims have been explained, illustrated, and exemplified more than others; but this Chapter is already long, and the reader of military history will be able to explain, illustrate, and exemplify those to which he thinks this has not been here sufficiently done for himself. This chapter will now be concluded with the following article on Marches, considered in their connexion with the Principles of Strategy and Tactics.

Def. The Strategical Power of an army may be defined to be the *Capability it possesses for Strategical Operations*; in other words, the capability it possesses for war during the time which Strategy presides over war, as defined in the definition of Strategy at the commencement of the treatise.

Rapidity is then so important in war, that the Strategical Power of an army—and this is, of course, none other than the actual power which makes itself felt—is in proportion to the rapidity in marching of which it is capable. When the expression “in proportion to the rapidity in marching” is used, the words, “in proportion,” are used familiarly, and are not to have their exact mathematical signification attached to them; for, in fact, these words, taken in their exact signification, are not adequate to the case; since, by increasing the rapidity of an army in any ratio, the Strategical Power of an army is increased in a far higher ratio. Double, for example, the rapidity of an army, and the Strategical Power is manifestly not doubled, but increased many times more. By increasing in a small degree the rapidity of an army, how many plans, impossible before, become practicable! how many doubtful, certain! and how much is the decisiveness of the results which are to follow from a safe plan increased! It is by rapidity that the broken army is to withdraw itself from danger; not without rapidity can the vigour and audacity of pursuit

which are always to be extreme, banish the appearance of order from the pursued, and change retreat to headlong flight. It is by rapidity that the mass of the army presents itself unexpectedly in the midst of the enemy's columns or of his cantonments, and defeats successively the separated columns, overwhelmed *by the fire and power* of numbers, and crushed in consequence by a vastly superior artillery, against which it is impossible to undertake anything, in rapid detail. As the solidity, too, of either of the most advantageous bases of operation explained in the writer's elementary treatise on strategy, and called respectively parallel and perpendicular, and projecting angular bases, becomes diminished, even the success to be obtained from operating from the extremity of such base towards the enemy, being affected, becomes dependent more and more on the rapidity of the columns; for we know, on the authority of Napoleon, that "without a head quick to take the offensive, one would vainly for any length of time oppose to the efforts of a great captain a river wide as the Vistula, and rapid as the Danube at its mouth." The importance of rapidity is briefly discussed in the writer's treatise on strategy. This importance is, however, self-evident, and every one will see this more and more as his knowledge of military history increases. Increase the rapidity of which an army is capable, and the impossible becomes possible, imprudence changes to wisdom, doubt to certainty, and *a new sphere of operations, containing plans before absurd, lies open.*

The Power of an army is Strategical and Tactical. The Strategical power of an army has been defined, and the Tactical power of an army will be hereafter, in its proper place. The Strategical Power of an army is dependent on two elements ; the one Rapidity, which rapidity is in its turn dependent *on the enlightened, anti-prejudiced, well-directed pains taken to acquire it*, and on the excellence of the Engineers and their Parks. The remaining element is, the army's power of carrying or carriage. The power of carriage—a term that perhaps explains itself—means the whole power exerted by all the men in the army, each man in carrying arms, ammunition, provisions, and neces-

saries for himself, and in the special corps of wagons organised for the purposes of carriage. Rapidity, then, and Power of Carriage are the two elements of the Strategical Power of an army; and their relative importance varies with the fertility and resources of the theatre of war, because the more provisions and resources are found in the country, the less important the power of carriage becomes. Rapidity appears to enter in general in point of importance with respect to power of carriage in the ratio of about four to one. It may be remarked that the power of carriage is not absolute, but varies with the habits and wants of the army. Thus an army which, on the supposition that each infantry soldier should carry any given number of pounds, each cavalry soldier another given number of pounds, &c. &c., and should by so doing have ammunition, *provisions*, and necessaries for ten days, would have greater power of carriage than one in which every foot soldier and every horse soldier should carry double these same given numbers of pounds, and yet be only provided for nine days. The writer has heard that the Black King of Hayti pays great attention to the speed and distance of which his soldiers are capable, and is in this as much in advance of certain White Governments and Potentates as his Royal Blacks would be at the end of a race with certain white battalions. Mrs. Beecher Stowe might in fact be quite proud of his Black Majesty in this particular, and show from his proceedings the natural *quickness* of the African *Races* generally. It has been said that the power of carriage depends on the habits and requirements of the army. An anecdote is related of the Duke of Wellington, to the effect that, very shortly after entering the army, he weighed one of his men in his arms, &c., and afterwards out of them. In this, then, he was experimenting on the power of carriage of the army, in order to determine that, and from that its strategical power, and thus obtain a measure of the magnitude of the strategical operations of which it was capable. The young officer did, as the anecdote goes, attach a serious importance to the weighing proceeding, a result of superior knowledge and investigation, at which the bystanders expressed astonishment and ridicule.

Def. The Tactical Power of an army may similarly be defined to be, the capability the army possesses for tactical operations; in other words, its capability for war during the time which Tactics presides over war, as defined in the definitions of Strategy and Tactics.

The Tactical Power of an army is dependent on—

1. Its Physical force for combat.
2. Its Psychical and Mental force for combat.
3. The intrinsic excellence of its evolutions of minor tactics.
4. The rapidity with which it is capable of performing its evolutions.
5. The excellence of its armament.

Having now premised the important influence which the pace at which an army can move exercises on the plans which it is possible or expedient for the general to form, the discussion of the leading problem of marches, in its relation to the Principles of Strategy and Tactics, will now be proceeded with in as general a way as appears possible.

In order to the consideration of this leading problem, let there be supposed to be *a general*, who, of course, must be *at a certain place*, and who has received information on which he has decided to act, either of his own accord, or because he is obliged to do so, and who may or may not know *the position the enemy's army occupied at a certain time, and the rate at which the enemy is accustomed to march*. In fact, it is necessary to the purpose in hand to suppose nothing more or less than a general who is at a certain place, and has received such information respecting the enemy that he has decided to act, either of his own accord, or because he is obliged. Let it be supposed, too, that the Corps d'Armée and Divisions of the army which this general commands are scattered,—a Corps d'Armée, perhaps, on one part of the frontier, another on another part, a third in and about some large fortress, such as Strasbourg, a Division or two at another fortress, &c. &c. In fact, to give the leading problem of marches, in its relation to the Principles of Strategy and Tactics, in all its generality, the general's army must be supposed to be scattered. The general now takes the best map he can

get, and with pins having heads of different colours, or stuck through little pieces of different coloured cards, to indicate the different bodies of his own and the enemy's armies, indicates the positions of the opposing armies, as his information makes him believe them to be, by sticking the pins in the map. The general, of course, knows the position which the whole of his own army occupies, or which it occupied at any time; he may, perhaps, know where each of the principal bodies of the enemy were at different times. It is not, however, here a question of the amount of information the general may possess, or its kind; or the way he puts the pins into the map; though it may be concluded that he will think good to put in such pins *in some way or another*, i. e. *according to some rule*: he might, for instance, mark all the enemy's bodies in the positions he believed them to occupy *at one and the same time*; he might find it better to mark the places they occupied at different times, according to his information; or he might find one or other of these two ways given as examples impossible, or both, or partially so. That which is the subject of consideration here is the general way in which marches, with their rapidity, and the circumstances which influence that rapidity, enter a general's combinations. To state, then, the general way in which marches and their rapidity, with the circumstances which influence that rapidity, enter a combination:—

The general having considered his information as to the positions of the two armies, and the configuration of the theatre of war, and the probable plans of the enemy, &c., and being, as it has been supposed, decided on acting, voluntarily or under necessity, *will decide on a certain position, or on certain positions, which he would like his army, either entire or in two, three, or more bodies, to occupy at a given fixed time*,—thus according to his calculations ensuring a favourable strategical position relatively to the position which the enemy will at that time occupy. In fact, the execution of a general's plan will always turn on the *having his army in a certain strategical position or positions,—the army being in a single mass or divided at a certain fixed time*. It is clear that it is on this that the

combination will and does in all cases turn ; whether, for example, it be proposed to take up a certain strategical position at a certain fixed time, in order to intercept the union of the enemy's columns at their point of concentration, and defeat them in detail ; or to be on the enemy's communications, one's own remaining covered ; or at one extremity of the enemy's strategical front, along which it is proposed to pass the mass of the army ; or in any case whatever. It being decided, then, that the combination will always turn on this, the general is now to be supposed to have decided that, *if at a certain fixed time he can be in a certain strategical position*, he will be in a position, relatively to the enemy, such that he will be either already reaping or in train to reap great advantages. The consideration of the rapidity of marches, and the circumstances affecting their rapidity, has already entered the combination before the strategical position and the fixed time are decided on as being the right thing, *if attainable* ; because the general, before suggesting to himself a certain strategical position, at a certain fixed time, must at least have promenaded his compass open at a distance of say twenty miles, (which, supposing him to measure in straight lines along the general direction of the roads, would in general for every twenty miles of the straight line give twenty-four of road, taking turns and twists into account,) and become pretty well acquainted with the prominent distances on the map, the size of the theatre of war generally, and uniting this roughly with the strategical power of his army, and the estimated strategical power of the enemy, have roughly ascertained whether it is possible to attain *the* certain strategical position at the certain fixed time, and whether the enemy can be, and is likely to be, in the corresponding position he has attributed to him. The consideration of marches having, then, thus far entered the combination before the strategical position at the fixed time is suggested, the position at the fixed time being suggested, the consideration of the rapidity, and circumstances affecting the rapidity, of marches, again enters into the mental discussion of the combination by the general, and he has to decide—

1. (1) By a consideration of distances, configuration and nature of the theatre of war, and strategical power of his army, as to the actual amount of probability that he can at the fixed time be in the fixed position ; (2) *and at what time each of his bodies must start in order that the different bodies may arrive simultaneously, each in its allotted position.*

2. By a consideration of distances, configuration and nature of the theatre of war, and estimated Strategical Power of the enemy ; whether it is possible or impossible for the enemy to execute any decisive manœuvre which will overthrow the combination, and turn the strategical advantages of position in his favour.

This, then, is the general problem of marches ; and having thus introduced and stated it, the discussion of the solution may be proceeded with.

The Problem has been divided into two parts. The discussion of the second part is no other than the discussion from more imperfect and less reliable data of the first of the two divisions of part 1 ; for the general has, in order to solve the second part, only *to make the same calculation with respect to* the supposed position of the enemy, the distances on the map, the configuration and nature of the theatre of war, and the strategical power of the enemy, and any position into which he sees that if the enemy could place himself it would interfere with the success of his plan, which he makes in solving the first division of part 1, with his own known position, the distances on the map, the nature and configuration of the theatre of war, and the strategical power of his army, in order to see if he is able to be in the fixed position he wishes his army to be in at the fixed time. Hence the discussion of part 1 will alone be entered on ; more would be recapitulatory.

The first thing, then, manifestly to be done in the solution of the problem, is to determine the time which each of the separate bodies—the army being supposed disseminated, to give all possible generality—will require to march from the position it occupies, to the strategical position it is to have *at the fixed time*. To show how this is to be done for one corps, is to show how it is to be done for all.

First, then, to state the different things which have to be taken into consideration in determining the time which an army, or column of an army, will require to move from one given point to another given point.

1. The distance between the two points, or the distance between the points estimated in *marches*.
2. The ordinary general rate at which the army marches; or, to explain better, the *marching power of the army*; because marches may be forced, and so the expression, "ordinary general rate," becomes inadequate.
3. The size and character of the road, or roads, which are chosen for the strategical line of the column; the nature of the country, more or less difficult; the resources of the country.
4. The Parks, more or less considerable, which are to accompany the column.
5. The greater or less importance that the march of the column should be concealed, and the consequent necessity of precautions which occasion delay.
6. The information received as to the obstacles which the enemy has thrown or is likely to throw in the way of the march of the column.

Then, by an exercise of judgment, the general determines the shortest time in which the march can be done. If he be able to give the column more time than the shortest possible, he gives it, if he pleases, by starting the column sooner.

It is to be remarked that, when time presses, and a march has to be performed in the shortest possible time, or thereabouts, the *security the general has that he will have the column at the end of its march, in the place fixed, at the hour fixed, lies in a general knowledge and conviction throughout the whole army, and which ought to be most sedulously inculcated into all ranks, that the Safety and Honour of the whole army, and of every column of it, depend on the exact execution of every march which may be ordered, more than on anything else.* If unexpected difficulties arise, so must unexpected efforts: brave men are made to surmount difficulties, not to be beaten by them. Let that of

the Principles, too, be remembered which states, "That an army passes everywhere, and at all seasons, where two men can stand abreast;" nor should Hannibal's passage of the Marshes of Clusium, deemed impracticable by the Romans,—Napoleon's passage of the Alps, with its difficulties augmented by the Fort of Bard,—the retreat of the 10,000,—the passage of the Beresina,—or Charles the Twelfth's march into Russia,—be forgotten.

As a matter of course, the security the general has for an exact execution of a march,—however unexampled, and whatever its unexpected difficulties,—depends on everything on which the success of every one of the operations of an army depends; but *the inculcation of the knowledge and conviction spoken of above, in all ranks,* seems to deserve especial attention, for many weighty reasons. It is, then, the military excellence of every kind—of the soldiers forming a column, and of the officer commanding it, and the general determination of all ranks to be at the appointed place at the appointed time, if it even involve apparent impossibilities—that can alone ensure the exact execution of the general's strategical plans, and with them the Safety and Honour of the army.

We have, then, now arrived at the part of the discussion where we suppose the general to have determined the shortest length of time required for each of the columns to march from its present position to the appointed one.

To illustrate the question thus far, let the day on which the general is making his combination be supposed to be Sept. 1st; let the army be divided into four bodies—A, B, C, D; stationed at four different places—*p, q, r, s*: let the fixed time at which they are to have their new strategical position be Sept. 12th; and let P, Q, R, S, be the new positions of the four bodies, respectively.

Let the general have decided that the least time in which A can march from *p* to P is 8 days; B from *q* to Q, 7 days; and similarly for C and D, 6 days and 3 days, respectively.

Then the combination is possible if an order can be carried from the place at which the general is, to *p* in 3 days, to *q* in 4 days, to *r* in 5 days, and to *s* in 8 days.

The combination being found possible, the general gives each of the columns as much time as he thinks fit, compatibly with time allowed to each of the columns to accomplish its march. Then the general, having decided at what time any one of the columns is to march, sends an order to the officer commanding it, stating the time of starting, the place he is to go to, and the time he is to be there. The order is accompanied by a document containing in general,—

1. A condensation of the most important information of all kinds respecting the strategical line which the column is to take.

2. Positive orders for the particular emergencies which it is possible may arrive.

3. Instructions as to the conduct of the march, to be observed at discretion.

4. Bodies on the right and left with which he may have to cooperate, and as much of the general plan as it is necessary for the officer to know.

5. Anything important respecting the enemy which is known. Instructions, *to be followed at discretion*, and information are *alone* sent to the officer charged with the march of a column. Orders which require positive execution may be found inexecutable and absurd, and will only embarrass. The column must be at the appointed place at the appointed time; this is the only absolute order given, and the officer in command must give a very good reason indeed for failure in its execution,—his military reputation is embodied with the success of the march. The officer then ought to be left free and unembarrassed in his movements: assist him all that is possible by the best information which can be obtained, lucidly and clearly given, and by instructions as to the conduct of the march, all of which he may find it highly expedient to follow, and be very grateful for; but by none of which should he be bound for a moment as if it were an order.

CHAPTER VI.

ON THE PASSAGE OF A GREAT RIVER, THE PASSAGE OF WHICH THE ENEMY WISHES TO DISPUTE.

IT was said by Napoleon that the greatest obstacle which could present itself to the march of any army is a Desert, the second a Chain of Mountains, and the third a Great River. It is certain that the passage of a great river whose bridges are broken, and which is not fordable, in face of an enemy wishing to oppose it, is among the most difficult operations in war. A small river may be passed by means of the pontoons, and other machines and materials for the construction of bridges carried by the engineers accompanying the army or column. In the passage of a great river it is necessary to have recourse to the system of requisitions, and seize the barges, boats, wood, &c., necessary to the construction of the bridge, as near as possible to the point which is determined on to be the point of passage. The passage of a great river, the passage of which an enemy wishes to dispute, may be effected—

1. By Stratagem.
2. By Force.
3. By Stratagem and Force combined.

The last method is the most frequent, because, if the enemy be moderately watchful, he is nearly certain to have some troops in the neighbourhood of the point of passage ready to oppose the passage before it can be completed. The more successful the stratagem the less troops the enemy will have to oppose at the point of passage.

It is the Principles of Strategy which indicate the *neighbourhood* of the point of passage; thus, when a great river forms a *parallel and perpendicular base of operations*, (*i. e.* approximately parallel to the enemy's communications, and perpendicular to those of the army,) the *neighbourhood* of the point of passage would be in general towards

that extremity of this base which lies towards the enemy, in consequence of the Principle of Strategy which says—“Operate as far as possible on the communications of the enemy without exposing your own;” or, taking a more simple case referring to the Principle IV. that principle indicates in what cases the point of attack on the enemy’s strategical front lies on the centre, and when on one extremity.

The *neighbourhood* of the point of passage being then determined by Strategy, the particular point is then to be chosen and determined upon from the six following conditions. The Conditions, which the point of passage of a river must satisfy, in order that it may be as favourable as possible for the army passing the river, are—

1. The bank passed from must be higher than, and therefore command the bank passed to.

2. The river must form a curve, the curvature must be considerable, and convexity towards the side passed from, so as to permit the establishment of batteries crossing their fire, and thus cutting off, separating apart, as it were, and taking possession of, a piece of ground on the opposite bank, and protecting the establishment of troops thereon.

3. An Affluent should enter the main river on the side passed from, near the point of passage, to facilitate the collection of barges, boats, &c., and the carriage of materials to the point of passage, (for in war water-carriage is in general very vastly easier and more rapid than land,) and up which Affluent the troops may embark in the barges or boats protected from the enemy’s fire.

4. There should be small woods, villages, &c., on the side passed to, provided the artillery can, from the side passed from, flank them and cross behind them, and sweep the plain in which they stand between and around them, so as to prevent succour arriving to any of the enemy’s troops which may occupy them, and they are inadequately occupied, for if these can be taken possession of, they form tactical pivots for the army, and greatly strengthen the *tête-de-pont*, which the infantry, flanked by the artillery, (the heavier the better,) firing from the opposite bank, must form and be till the bridge is finished. It is clear that the more tactical pivots there are on the side passed

to—as a part of a town, a large stone building, woods, &c., provided they are unoccupied or quite inadequately occupied—the better.

5. The bank passed from should be well furnished with bushes, small woods, brushwood, &c., to conceal materials and men, and this bank should afford good cover for riflemen, who will probably be wanted to line it in great numbers.

6. The slope of the banks of the river should be gentle, especially on the side towards the enemy, and the point of passage should be in the neighbourhood of good roads on both sides of the river.

7. There should be an Isle at the point of passage, in which materials, &c. may be hidden, and behind which barges, boats, &c. collected; as well the Isle, by dividing the stream into two parts, and protecting one part from the enemy's fire, diminishes the breadth of water to be crossed under the enemy's fire, and the length of the bridge to be constructed, to one-half, or about.

The point of passage being thus fixed on, *its Neighbourhood by Strategical reasons, and its exact Situation by the six preceding considerations*, the great object now becomes to make the enemy think the real point of passage is some other point than that decided on; which false point shall be at as great a distance as possible under the circumstances from the true one. It is said “under the circumstances,” because one has only the choice between those points which offer some ostensible advantages, at least generally speaking. The enemy would not believe in a pretended point of passage if it appeared an absurd or very disadvantageous one.

Before describing in general terms the operation of effecting the passage of a great river, it may be stated that it cannot be effected in the actual presence of an enemy at all equal in force to the army, and ready to dispute the passage.

It being supposed, then, that the detachments of the enemy opposite the real point of passage, and in the neighbourhood, are not too numerous, the enemy being deceived as to the real point, and that the pontoons, machines, barges, boats, wood, &c., are ready in the Affluent, if there be one, behind or in the protecting Isle, if there be one, and no Affluent, or if there be neither,

as near as possible to the bank, hidden behind woods, in villages, &c., then everything being ready for the operation at break of day, batteries are placed in commanding positions on the right and left, so as to cross their fires on the other side—thus, as it were, taking possession of a quadrilateral piece of land on the other bank—sweep the opposite bank, and drive away the detachments of the enemy, or compel them to hide themselves, and silence any artillery which the enemy may bring to oppose the passage of the boats, or injure the bridge while in course of construction. In order to be able to silence any guns the enemy may be able to bring up, it is highly expedient to be provided with siege artillery. As well the breadth of the river is to a certain extent against the artillery of the army wishing to pass, and in favour of the defending enemy, and this difference requires to be made up by weight of metal, and consequent extent of range. Riflemen lining and distributed along the edge of the bank on the side passed from, as thick as possible in reason, and behind as far as may be any shelter which may be available, will assist the artillery very powerfully indeed. At the same time the barges and boats are brought from their hiding-places, they either descend the Affluent, come from behind the Isle, or are lowered from the bank into the water when there is neither Affluent nor Isle. The barges and boats are immediately filled with infantry, and pass over as rapidly as possible. The first battalions that arrive on the opposite bank seek to establish themselves as well as possible, profiting by the tactical pivots which may present, or, in default of any, by the undulations of the ground, hedges, enclosures, &c., while the artillery—the heavier the better—by crossing its fire before them, puts them in a position to resist very superior numbers. Two advantages to the mental and psychical properties of the soldiers accompany these successive passages in boats. The courage of the soldiers is increased, both by seeing themselves cut off for the moment from all hopes of retreat, and by the certainty of speedy succour, while every moment their position betters.

The object of the battalions which cross in the barges and boats, is to drive the enemy from, and obtain possession

of, all the obstacles, villages, buildings, little woods, &c., in fact, tactical pivots, greater or less, which are in the proximity of the point of passage; in fact, to avail themselves artistically of all the advantages and accidents the ground may present, to make themselves as soon as possible into a *tête-de-pont* flanked by the artillery, to protect the establishment of the bridge.

As soon as by the successive transports of infantry the force on the other side, aided by the artillery, has obtained undisputed possession of the other bank, the barges, pontoons, machines, &c. for the construction of the bridge, are brought forth from out the Affluent, from behind the Isle, or from their hiding-places wherever they may be, and the bridge is constructed with, of course, the greatest despatch. It may be stated that the artillery ceases its fire and changes its position, so soon as the increased numbers of the infantry on the opposite bank render the fire dangerous to them. It then seeks new positions whence to sweep the opposite bank, flanking the infantry as much as possible.

During the construction of the bridge some engineer officers are occupied in tracing the fortifications for a *tête-de-pont* to protect the bridge and ensure a means of retreat, in case of disaster to the army in its future operations. Such a precaution is never to be despised, no matter how great the apparent superiority of force which one possesses.

The bridge being completed, the Artillery, Cavalry, and the rest of the Infantry cross it, and take up their position on the opposite side. It is best to construct the bridge above the place of passage of the boats, because the shock of the boats which continue to cross during the construction of the bridge, and which any accident, as the loss of their conductors, might allow the stream to drive against the bridge, might be injurious to the operation of constructing the bridge, or to the bridge itself. This is, however, liable to exception when the stream is not rapid, and other conveniences outweigh this danger.

Not only the Strategical artifices for deceiving the enemy by collecting men and materials on some distant probable point or points of passage as already mentioned, but all kinds of artifices are to be employed, in order to divert the attention of the enemy from the true point, or

the day of passage itself. Thus a large battery may keep up a heavy fire at a distant point, the heads of pretended columns may be shown in different places, &c. In war a good Dodge or Artifice is never to be despised, according to the Maxim XV.

In illustration of the preceding, the instructive history of the passage of the Limmat under Massena in 1799 will be now given ; it must be read with a map of Switzerland : any good map will suffice. Without a map, this narrative, as, indeed, all military history, is best left alone.

Passage of the Limmat under Massena in 1799.

Massena occupied the left bank of the Aar from Klignau to the junction of the Aar and Limmat, the left bank of the Limmat, and the western shore of the Lake of Zurich. The general Knochemmoff, at the head of a Russian army, had a no less extended strategical front, occupying the right bank of the Aar from Klignau to the junction of the Aar and Limmat, the right bank of the Limmat, and the eastern shore of the Lake of Zurich. A second Russian army, under Souwarow, was descending from the Alps to join Knochemmoff. According to the Principle of Strategy which states that one of the great objects to be uniformly looked after in all military operations, is "To bring the mass of one's forces successively into collision with fractions of the enemy," Massena determined to effect the passage of the Limmat, and, if possible, engage and defeat Knochemmoff, before his junction with Souwarow, and afterwards in turn engage the latter, thus engaging the two successively in application of the Principle. Massena having decided on this, the Principle IV., *q.v.*, next indicates, that the point of attack of Knochemmoff's strategical front is towards the centre, and hence that the point of passage of the Limmat should be *in the neighbourhood* of Schlieren, or on the centre of the Russian strategical front. Then the conditions which the point of passage of a river must satisfy in order that it may be as favourable as possible, determine *the particular point* out of the neighbourhood already assigned.

On looking at the map it will be seen that the river, forming a considerable bend at a point in the neighbourhood of Schlieren, with its convexity the right way, *i. e.*

towards Massena, (which point is near the village of Dietikon,) that point satisfies the condition 2.

This point also satisfies condition 1, for the left bank does command the right.

And the condition 5.

And the condition 6 as well as any other point does.

And the condition 7.

Hence the conditions 3 and 4 remain alone unsatisfied, there being no Affluent or protecting Isle. But it is very important that one of these unsatisfied conditions should be satisfied. It will be seen how that of these two which requires an Affluent to serve for the collection of barges, boats, machines, materials, &c., by furnishing water carriage, &c., was supplied as far as possible under the circumstances. And here, at the risk of discursiveness, as the subject has incidentally arisen, the great advantages which water carriage frequently possesses in war over land carriage may be remarked. In a despatch from Napoleon to his brother Joseph, the following words occur,—“From Saragossa to Tudela the land carriage is 3 days” (i.e. 72 hours); “the water carriage is only 14 hours, wherefore to have the besieging artillery and stores at Tudela is the same as to have them at Saragossa.” Nor does it appear at all likely that Railroads will affect the question, for, admitting they will serve for the strategical concentration of armies entirely out of the sphere of the enemy’s activity, yet their operation appears so easily deranged by pulling up very short pieces of the rail, or putting pieces of iron across, &c. &c., especially if done on the tops of bridges, viaducts, &c., or by mines, that it does not appear probable they will be of any use in or near the sphere of the enemy’s activity. The effect of a battery opening on a railway train remains to be seen.

To continue the narrative. On looking at the map, it will be seen that the town of Bremgarten on the Reuss is distant about 5 miles from the point decided on for the point of passage, and that there is a road, though not a very good one, nearly the whole way. The river Reuss, then, must supply the purposes of the Affluent for the supply and collection of barges, boats, and the collection of machines and materials by water, and these all must be

carried across to the Limmat by land from Bremgarten, a distance which, it has been said, is 5 miles.

There is, it will be seen from the map, a point also *in the neighbourhood* of the centre of the Russian strategical front which has an Affluent, but this point of confluence satisfies no other of the required conditions, and the Affluent is very small and unimportant compared with the Reuss for the purpose of collecting barges and boats, &c., by means of which latter it will be seen barges, &c., could be collected from *even the Lake of Neuchatel 90 miles distant*.

Though the Reuss could neither answer the purpose of an Affluent in conveying the barges, boats, materials, &c., quite to the very point of passage, nor shelter the embarkation of the Infantry destined to cross in boats, yet it had the advantage of awakening less the suspicions of the enemy.

The false strategical point, at as great a distance as possible from the true one, decided on in this case for the purpose of turning on it the attention of the enemy, was Brugg, on the Aar. At that place ostensible preparations were made; two of the largest barges from the Lake of Lucerne were formed into a moveable bridge, rafts were constructed, requisitions of tackling, oars, &c. made, and in fact the attention of the enemy was directed successfully towards this point, *12 miles distant from the true one*. The real preparations were made by collecting barges and boats on the Reuss itself, and by it from the Lake of Zug, and even from that of Neuchatel, 90 miles distant by water from the true point of passage. The barges and boats from the Lake of Neuchatel were brought down the Aar with the current, as will be seen by map, and up the Reuss. In this way twenty-seven barges destined to the transportation of the Infantry were collected one by one at Bremgarten, and carried to the point, where they were hidden behind and in a little wood. The barges destined to the construction of the bridge were taken from the bridge of boats at Rottenschwyl on the Reuss, where, to prevent suspicion, they were left till the last moment, viz. till the evening before the day on which the passage was to be effected, when, the bridge being taken to pieces, the barges were brought down to Bremgarten.

One thing is to be remarked;—the great distance of river and lake over which boats and barges were collected for the passage.

During the night before the passage, the barges and boats destined to the transport of the Infantry were carried silently to the bank of the river, and the artillery placed so as to cross the fire and protect effectually the disembarkation of the Infantry.

There was, in particular, a body of 2,000 Russian Grenadiers in the immediate proximity of the point, and a portion of the artillery was so placed as to cut these as far as possible from the point of passage, and throw howitzer shells into their encampment. A battery was also placed opposite the village of Otwill, to play across and intercept the communication by the road from Wurenlos to Zurich on the other side of the river, and prevent assistance coming to the 2,000 grenadiers. A strong Division was placed in position across the road from Dietikon to Schlieren, to oppose any offensive movement the garrison of Zurich might attempt during the operation of the passage. The artillery made its disposition during the night with extraordinary order and silence. The infantry destined for the passage was arranged in order at fifty paces distance from the bank. As early dawn began to break, notwithstanding the height of the bank above the water, the barges and boats were launched into the stream, and the Infantry, to the number of 600 men, mounting readily the opposite bank, chased away 200 Cossacks, who formed an advanced post. Now the waters of the Limmat rippled and vibrated beneath the atmosphere shaken by the French Artillery, and howitzer shells searched after the Russians in their encampment.

As soon as the success of the Infantry on the opposite bank was certain, and the battalions having, on finding themselves decidedly superior, charged, and driving back the enemy made good their *tête-de-pont*, the barges, machines, and materials, which had till then remained in the village of Dietikon, advanced at a fast trot. In two hours and a half the bridge, with rampe and road which led down to it, were finished. By this time 8,000 Infantry

were on the opposite bank, because, according to the Rule, the boats continued crossing Infantry during the construction of the bridge. The Artillery, Cavalry, and remains of the Infantry, defiled over the bridge, four hours after the commencement of which the French army was united in the position of Fahr.

Companies of Swimmers are of use in crossing a river. They may draw their arms after them in very small light boats constructed expressly for the purpose, each of which two, or even one man, might readily carry. Where silence is required, such companies might be of great use, and, of course, the more rapidly an army can cross a river, the greater the probability of the success of the undertaking, for the less time the enemy will have to concentrate and oppose the passage, and the more means an army has of crossing, the greater will necessarily be the rapidity with which it will pass. There can be no difficulty in forming companies of swimmers, as it is only to collect together men who can swim. All soldiers ought, of course, to be able to swim well, for if the opportunity or occasion for swimming rarely occurs, the consciousness of the power of doing so in case of need gives confidence where a man has anything to do with the water.

In the passage of a river, as in all the operations of war, according to the Maxim XV. a good dodge, artifice, or trick is an excellent thing; decidedly it is of importance that a soldier should possess a very ready invention, a natural turn for mechanism and mechanics of all kinds, and a great power of adapting himself to all circumstances, and all circumstances to himself.

The two circumstances which form the only points of interest in the passage of the Dwina by Charles XII. will here be mentioned in illustration of the preceding remark, and of the subject of this Chapter generally, which are—

1. That before he ordered his barges to cross he waited for a favourable wind, and lighted great masses of wet straw and underwood, &c. which he had collected, and thus made a great smoke, which the wind drove across the river, by which means he greatly obscured the view of the

river about his point of passage, and the enemy not being able to see well through the very thick smoke which the wind was driving in their faces, their fire was very ineffectual, and the boats got over with scarcely any loss.

2. That he had his boats made expressly with very high sides, bullet proof, over which and through loop-holes in which the men could fire as over a parapet, and which high sides, *fixed on hinges*, lowered like little drawbridges, and thus assisted as well the disembarkation of the Infantry from the boats.

Here, then, was a good trick, and a tolerable employment of mechanism, and certainly where invention and ingenuity can economise the lives of brave men they ought always to be exercised, nor ought the fear of being considered an innovator in such a case be allowed to weigh.

It is manifestly out of the scope of this Treatise to enter into all the details of the passage of a great river, for that would fall within the province of a Treatise on Military Engineering. The reader is referred to the accounts of the two passages of the Rhine at Rehl, and that of the Danube at Hæchstedt in 1800, classic accounts of which have been written by General Dedon. The passage of the Danube at Esling by Napoleon, who appears to have himself been one of the best engineer officers, to say the least, in his army, *in face of an army of 120,000 Austrians, with 400 pieces of artillery*, in one of the points where the bed of the river is broadest, is perhaps the most extraordinary on record, with the exception of the passage of the Berezina on the world-wide retreat from Moscow, which passage, the celebrated Jomini says, was in his opinion miraculous in every respect. A General Pelet has written an account of the Passage of the Danube at Esling. This article will now be concluded with an account of—

The passage of the Douro in the year of our Lord 1809, May 12th.

The Passage of the British army under Sir Arthur Wellesley took place on the above date close to the town of Oporto. The passage was disputed by 10,000 Frenchmen under Soult. The measures which that general had taken were the destruction of the bridge, the bringing over to his side of the river all the barges and boats on the Douro, the

Tamega, and the small affluent which enters the Douro on its right bank above Oporto. Soult was deceived by Franceschi's report, which induced him to believe that the passage would be attempted by means of the vessels which were erroneously supposed to have landed Hill's Corps from the *Ocean* at Ovar. Hence Soult took up his station on the morning of May 12th on a mound, which is inserted in the Plan 5, westward of the city, where he could see the Douro to its mouth, and the guards above the city were few, and placed at wide intervals, while the patrols were not vigilant. It will be seen from the plan that the bank of the Douro, just above Oporto, forms a projecting angle, surmounted by a hill, on which the Serra Convent, to which the letter *a* is affixed in plan, stands. Behind this hill, or height, the British army was concentrated and concealed before eight o'clock of the morning of May 12th. The British army in this position is in plan painted light red. Before the army rolled a deep and rapid river, more than 300 yards wide, and the means and dispositions of passage in face of Soult's 10,000 men remained to be found.

It will be seen from the figure, it being remembered that dark brown represents houses, or collections of houses, by the convention for the plans, that there was a large isolated building, to which the letter *b* is affixed, called the Seminary, on the right bank. This building, easy of access from the river, was surrounded on three sides by a wall, extending down to the water's edge, and the river on the fourth side, and the only entrance into the area so bounded was by an iron gate on the side opposite the river. No French posts were near, and the direct line across the river to the Seminary was hidden from the town by the Serra rock. The Serra rock offered a position on which to place a large battery, flanking the Seminary on the side towards the French, *i. e.* towards Oporto, and compelling them to attack the Seminary, when troops had been placed in it on the side opposite to the river. The fire, or battery, too, so placed, crossed the French line of retreat by the Vallonga road. It happened that a poor barber had come over the preceding night, *i. e.* the night of May 11th, in

a small skiff. Colonel Waters discovered him, and these two, with the Prior of Amarante, who, in despite of his peaceable mission or calling, did not appear to have been a member of the Peace Society, nor to have fasted over much, and who gallantly offered his services, crossed the river, and returned all three of them in half-an-hour each with a large barge. At the time when the gallant trio, to wit, the Priest, the Colonel, and the Barber, started to cross the river, General John Murray was sent with the German Brigade, the 14th Dragoons, and two guns, three miles up the stream, to the Barca di Avintas, with orders to look for boats and pass if possible. During the half hour the trio were absent 18 guns were placed in battery on the convent height. On their return with the three barges, some British troops were sent to support Murray, and others cautiously approached the river, hidden by the Serra rock. As soon as the first boat reached the bank, it being now ten o'clock, an officer and 25 men embarked, and in a quarter of an hour were placed in the Seminary, the French still remaining unsuspicious in Oporto. The point of passage of the boats, hidden by the Serra rock from the French, will be recognised in the plan. A second boat followed, and was unobserved. A third crossed higher up the river, and then "tumultuous noise rolled through Oporto;" but before continuing the quotation from Sir W. Napier's History of the War in the Peninsula, of which this is the commencement, it is necessary to state that the dark red and dark yellow positions of the British and French given in the plan, the British being dark red, were simultaneous positions, and that the time at which they were in these positions, and how they came into them, will appear clearly from the text. A third crossed higher up the river, and then "tumultuous noise rolled through Oporto, the drums beat to arms, shouts arose in all parts, and the people were seen vehemently gesticulating and making signals from their houses, while confused masses of troops, rushing out of the city by the higher streets, and throwing out swarms of skirmishers, came furiously down against the Seminary. The British soldiers instantly crowded the river bank, Paget's and Hill's

divisions at the point of passage, Sherbrooke's where the boat bridge had been cut away; but Paget himself, who had passed in the third boat and mounted the roof of the Seminary, fell there deeply wounded, whereupon Hill took his place. The musketry, sharp and voluble, augmented as the forces accumulated, and the French attack was eager and constant, their fire increased more rapidly, and their guns opened on the building, while the English guns from the Serra commanded the enclosure and swept the ground on the left so as to confine the assault to the iron-gate front; but Murray did not appear, the struggle was violent, the moment critical, and Sir Arthur was only prevented crossing in person by the interference of those about him and the confidence he had in Hill.

" In this state of affairs some citizens came over to Villa Nova with several great boats; and Sherbrooke's men were beginning to cross in large bodies, when a long loud shout in the town, and the waving of handkerchiefs from the windows, gave notice that the French had abandoned the lower city: at the same time Murray was descried coming down the right bank of the river. Three battalions were now in the Seminary, the attack slackened, and Hill advancing to the enclosure wall poured a destructive fire on the French columns, as they passed in haste and confusion along his front on the Vallonga road; five guns then came galloping out of the town, but, appalled by the terrible line of musketry from the enclosure, the drivers pulled up, and while thus hesitating a volley from behind stretched many artillerymen in the dust, and the rest dispersing left their guns on the road. This volley came from Sherbrooke's men, who had come through the town, and thus the passage being won the Allies had the right bank of the Douro. Sherbrooke from the city now pressed the French rear, Hill from the Seminary sent a damaging fire on the flank of the retiring masses, and far on the right Murray menaced the line of retreat; the rear of the army was still passing the river, but the guns on the Serra rock searched the French columns from rear to front as they hurried onwards.

" If Murray had fallen upon the disordered crowds their

discomfiture would have been complete; but he suffered column after column to pass without even a cannon-shot, and seemed fearful lest they should turn and push him into the river. General Charles Stewart and Major Hervey, impatient of his timidity, charged with two squadrons of dragoons, and riding over the enemy's rear-guard, as it was pushing through a narrow road to gain an open space beyond, unhorsed Laborde and wounded Foy, yet on the English side, Hervey lost an arm, and his gallant horsemen, receiving no support from Murray, had to fight their way back with loss. This finished the action, the French continued their retreat, the British remained on the ground they had gained; the latter lost twenty killed, a general and ninety-five men wounded; the former had five hundred men killed and wounded, and five guns were taken. A quantity of ammunition, and fifty guns, the carriages of which had been burnt, were afterwards found in the arsenal, and several hundred men were captured in the hospitals.

"Napoleon's veterans were so experienced, so inured to warfare, that no troops could more readily recover from a surprise. Before they reached Vallonga they were again in order with a rear-guard; and as a small garrison at the mouth of the Douro, guided by some friendly Portuguese, also rejoined the army in the night, Soult, believing Loison was still at Amarante, thought he had happily escaped the danger. Sir Arthur Wellesley now brought over his baggage, stores, and the artillery, which occupied the 12th and 13th; and though Murray's Germans pursued on the morning of the 13th, they did not go more than two leagues on the road of Amarante. This delay has been blamed. It is argued that an enemy once surprised should never be allowed to recover while a single regiment could pursue. The reasons for halting were, that part of the army was still on the left bank of the Douro, and the troops had outmarched provisions, baggage, and ammunition; they had made eighty miles of difficult country in four days, during three of which they were constantly fighting, men and animals required rest, and nothing was known of Beresford."

CHAPTER VII.

ON CERTAIN OF THE PRINCIPLES OF FORTIFICATION, AND ON THE RELATION
OF THAT SUBJECT TO STRATEGY AND TACTICS.

PART I.

THE Principle XXVI., which is equally a principle of Strategy and Tactics, has to be taken into consideration ; and is a guide in the construction, both of the largest permanent fortresses of all kinds, the largest permanent têtes-de-pont, and all field fortifications.

The following is also a principle of fortification. There is no tactical front or position so good, or so bad, but it may always be considerably improved by field fortifications constructed on some part of it, according to the Principle L.

The Principle V. of Tactics explains how the mass of the forces is to be carried on to the decisive point of the field of battle, by containing the enemy along another part of the tactical front ; which is to be done, 1. By natural obstacles ; 2. By distance or time ; 3. By a very augmented fire of artillery. It is clear, then, that along any part of the line of battle, along which it is wished to contain the enemy, *i.e.* prevent him from driving back and breaking this part of the line in by means of a much less number of men than he attacks it with, and at the same time do him all the harm possible by cannonading him, and in repelling his attacks if he makes any, while the mass of the forces are thrown on another part of his line, the containing part of the line should, whenever time allows, be strengthened by field fortifications, made in accordance with the Principle XXVI. ; thus constructing a tactical base of manœuvres.

The following is, then, a principle of fortification :—

Along every part of a line of battle along which it is intended to contain the enemy, remaining on the defensive

for that purpose, whether it be intended to remain on the defensive along the whole line or along a part, the line should be furnished with field fortifications, placed at intervals, constructed so that they will not interfere with the offensive movements which may be necessary even to the defence of a part of the line on which defence is alone decided upon, according to the Principle XXVI., or with any subsequent purely offensive movements which it may be necessary to make on this portion of the line of battle.

The following is another principle of fortification :—

Field fortifications are never to be formed by continued lines; but are always to be formed by detached works, mutually flanking one another, separated by unfortified intervals; and are always to be closed at the gorge, either with palisades, chevaux-de-frise, or a deep ditch, over which cavalry cannot get without the greatest confusion, if at all: this is, of course, only the case when the detached works are not regularly parapeted all round.

The following is another important principle of fortification :—

That of all kinds of fortresses which can be constructed so as to answer any purpose, that kind of fortress is to be chosen which can be defended by the least number of men.

That of all kinds of fortresses which can be adequately defended by the *same number of men*, that kind of fortress is to be chosen which can also be advantageously defended by the greatest number, and from which the greatest number can operate offensively.

That of all fortresses which can be adequately defended with the same number of men, and be advantageously defended by the same greatest number, that is to be chosen which commands the possession of the greatest area of ground and of the adjacent communications.

Or this principle may be otherwise stated, as follows :—

It is an universal principle of fortification, and that too most important to be remarked, that in all fortification, field and permanent, whether it be the strengthening a position of battle, a tactical pivot, a tactical base of manœuvres with field works, in building a fortress of the

largest size, in entrenching a camp, or in fortifying any line of country or any barrier,—that which is to be aimed at is, not to form a continued line or circumference, or part of a circumference, which the enemy cannot pass, and out of which, if the enemy be in front, it is equally impossible for the army to advance, and into which the army cannot retire without difficulty, encumbrment, and loss if the enemy is pressing it; nor is it to make the greatest amount of fortification to enclose the smallest possible area of ground; nor to build an immense incubus which requires an army to defend it properly; but on the contrary, what is required is to form a line, or circumference, or part of a circumference, which the enemy cannot pass, but out of which the army can readily and advantageously pass, and into which it can with the greatest readiness retire, however hard pressed, with a certainty the enemy cannot follow; and to make the least possible amount of fortifications to enclose the greatest possible area of ground; and to construct a fortress such that it can alike be held defensively by a few, and be an advantageous field of battle for an army, and that whether the army operates offensively or defensively.

Hence the field fortifications along any portion of the line of battle along which it is intended to take the defensive, in order to apply the Principle V., or along the whole line of battle if it is intended to take the offensive along the whole line, the fortification should consist of detached works, forming tactical pivots, closed at the gorge when of the kind to require it, and mutually flanking one another, which must be placed on two or more rows, so that lines or columns of attack, Cavalry, and Artillery, may easily advance from between the intervals; because, according to Principle XXVI. “offensive movements are the foundation of a good defence,” and as the time may come, as it will be remembered it did at Austerlitz, when the offensive has to be taken with rapidity, vigour, and audacity, even along that part of the line of battle along which at the commencement of the battle no ~~more~~ was to be done than to contain the enemy and remain entirely on the defensive.

And here the brilliant use of field fortifications in full accordance with what has been above stated on the subject, made by Peter the Great at the decisive battle of Pultowa, accompanied by a just appreciation of the value of artillery on the part of that extraordinary mechanical genius—not by the adjective “mechanical” at all disparaging his genius in other things, for it does appear that the title of “Great” was only justly applied—may be remarked on.

The Czar's line of battle was slightly convex, the two extremities resting on the river which flows past Pultowa. Having then a large river directly at his back, it might appear that he was grossly violating the Principle II. Case 5; but this was done from calculation and wisdom, though contrary to the principle. The reasons were that the dispositions of the Czar, the fortifications he had erected, and the immense superiority he possessedd in artillery, rendered his success so nearly certain that the principle might nearly be neglected on this account only; and that the prestige of the Swedish arms was in those days so great that on a previous occasion the Czar had been obliged to set apart artillery with orders to play on any who fled, and to tell this manœuvre to his army, in order to keep them up to the contest; hence, therefore, there was on this occasion a similar exercise of judgment iu placing a river behind his army, having previously given his men 999 chances of success out of 1,000 in their favour, if they stood up like men, which the large river they saw behind them compelled them to do. And here an occasion presents for stating to the reader that though the principles of war hold almost always, yet they do not hold quite always; but this is of little moment as regards their efficacy and value, for the exceptional cases are very rare and will always be readily recognised. There are, to illustrate this, medicines which administered in 999 cases out of the 1,000 are productive of a cure, but in the single case are found to fail: would it not then be absurd to say that great progress in the science of medicine has not been made when a remedy for 999 cases out of 1,000 of any particular disease has been discovered? And so with the principles

and maxims of war. The Czar's line of battle was supplied with tactical pivots, formed by detached redoubts placed at proper intervals. These redoubts were not only furnished with musketry but with artillery, and in all, along the Muscovite line there were the incredible number for those days of 72 pieces of artillery. Between the redoubts, in the intervals, the infantry and cavalry were placed; the latter on the wings, ready to attack the Swedes as soon as they had been thrown into confusion by the fire of the redoubts, which fire does not at all exclude the fire of artillery and of deployed battalions placed in the intervals. Charles XII., with only 4 pieces of artillery, advanced to the attack; and the Swedish cavalry, though very superior to the Muscovite, was completely broken by the latter, aided by the fire of the redoubts; for the Muscovite cavalry was enabled to charge offensively from between the redoubts whenever their fire had disordered the Swedish cavalry, and escape between the redoubts again when hard pressed. The Swedish infantry too, formed in line of battle, attacked the redoubts; but the fire was too hot to be borne even by that infantry, and it was indeed shattered to pieces by the fire before it could arrive at the redoubts. Then the Muscovite infantry, issuing from between the redoubts, and charging, finished the battle.

From the last of the preceding principles it follows,— that the large fortresses of a state ought in general to be formed of detached, completely enclosed, casemated, bastioned forts, mutually flanking one another, and enclosing the greatest possible area of ground consistently with adequate defence by the garrisons of the numbers which can be allowed to them, and commanding as directly as possible all the communications around their sites, and to form the tactical pivots of an extremely advantageous tactical front, which an entire army might occupy defensively as an impregnable position, and from which it might issue offensively without hindrance or encumbrance, having ample space to do so. In fact, large fortresses should be vast entrenched camps, properly constructed in masonry.

When a battery is likely to remain a long time in the

position it occupies in a field of battle, especially if a large battery, and at all exposed to the attacks of cavalry, a ditch cut round it (which will be improved by stakes at the bottom with sharp points) is a powerful means for its safety. The sides should be as steep as the ground will cut. A ditch, which it is little trouble to make, stops the effect of a charge of cavalry. If the entrenched battery at Borodino had had a ditch along the gorge, over which infantry could pass, comparatively speaking, readily, the French Cavalry would never have taken it.

It is incontestable that field fortifications were too much neglected during the wars of Napoleon.

PART II.

ON THE GUIDING PRINCIPLES TO THE CONSTRUCTION, AND ON THE CONSTRUCTION OF TÊTES-DE-PONT.

BASES of operation, both the primary or great initial base, and the subsequent successive base of operation and strategical bases of manœuvres, are *in general* formed by, or at least contain on some part of them, either a great river, or a chain of mountains. *In general* this is the case, but while stating this fact as a necessary introduction to the subject to be treated on, it may be as well to call to the mind of the reader that a line of sea-coast of any extent, may, to a maritime power which shall have, or obtain possession of the fortresses and harbours (which will be naturally coincident) along it, be a very good base of operations, especially since steamers have been brought to their present perfection, and particularly on a favourable coast; vast marshes, swamps, and impassable forests, too, may likewise form the lines of bases of operation; and it may be remarked, that the full definition of a base of operations is as follows:—

Def.—A base of operations is defined to be a piece of ground of any size or shape whatever, from which an army may or does derive its supplies, and towards which it might retreat in case of disaster.

This definition appears perfectly general, and includes the cases in which a single sea-port town may be a base of operations, as Konisberg was for the Russo-Prussian armies in the Friedland campaign ; and likewise a portion of the extremity of a promontory, separated from the main land by lines of fortifications, of which a ready example is found in the entrenched camp of Torres Vedras, with its 3 enclosing lines of fortifications. The exterior of these lines, about 29 miles in length, with a portion of the Tagus about 29 miles in length, and the Ocean to the extent of 26 miles, formed an area of ground nearly in the form of an isosceles triangle.

Having introduced this apparent digression for the sake of clearing up matters as progress is made, and preventing erroneous conclusions as far as may be, it will be repeated in order to introduce the subject of this second part of the chapter—

That Bases of Operation, both the primary or great initial base, and the subsequent successive bases of operation and strategical bases of manœuvres, are in general formed by, or at least contain along some part of them, either a great river or a chain of mountains. And of these two, rivers and mountains, rivers are the more general.

A small knowledge of military history will suffice to show how very large a portion of strategy is occupied by manœuvres involving, and indeed based on the offensive and defensive use of a great river as a base of operations, or as a strategical base of manœuvres. By the offensive use of a river—as, for example, when the river forms a base of operations of either of the most favourable kinds spoken of and explained in the writer's elementary treatise on Strategy, as, for example, a projecting angular base, or a parallel and perpendicular base. By the defensive use—as, for example, where a river forms the frontier of a state. Not to neglect examples, take the Danube, forming the parallel and perpendicular base used by Napoleon in the Austerlitz campaign, and bounding his line of operations on the north ; the Mayn, a parallel and perpendicular base for Napoleon in the Jena campaign ; the projecting angular base formed by the Warthe and Oder ; the *double*

parallel and perpendicular base formed with the sea-coast of the Adriatic when in possession of a maritime power, by the Po and the Adige, two great rivers, protecting either flank of the line of operations which runs between them, and which, with Venice, made impregnable from the land side, a matter of the greatest ease, appears to afford the strategical key to the conquest of Austrian Italy by a maritime power. And, lastly, the following quotation with respect to another double parallel and perpendicular base on a far larger scale, viz. the Elbe and the Oder, including the lines of operation between them and protecting them, in the same way as the Po and Adige, on either flank, from Sir W. Napier's History of the War in the Peninsula, may finish the examples, and strengthen them with the weight it is calculated to impose.

" Nevertheless Napoleon's genius triumphed at Dresden over the unskilful operations of the Allies directed by Schwartzenberg, whose incapacity as a commander was made manifest in this campaign. Nor would the after misfortunes of Vandamme and Macdonald, or the defeat of Oudinot and Ney, have prevented final success, but for the continuation of a treachery which seemed at the time to be considered a virtue by sovereigns who were unceasingly accusing their more noble adversary of the very baseness they were practising so unblushingly. He had conceived a project so vast, so original, so hardy, so far above the imaginations of his contemporary generals, that even Wellington's sagacity failed to pierce it, and he censured Napoleon's long stay on the Elbe as an obstinacy unwarranted by the rules of art. Yet he urged as a reason for not invading France the emperor's tenacity in holding Dresden; thus showing how widely the moral influence of that position was felt. Napoleon had more profoundly judged his own situation. The large forces he left at Dresdan, at Torgau, and Wittemberg, blamed by shallow military critics, were essential parts of his gigantic plan. He quitted Dresden, apparently in retreat, to deceive his enemies; but with the intention of marching down the Elbe, recrossing that river, and throwing his opponents into a false position. Then he would have seized Berlin,

and re-opening his communications with his garrisons both on the Elbe and the Oder have operated between those rivers ; and with an army much augmented in power, because he would have recovered many thousand old soldiers cooped up in the garrisons—an army more compact and firmly established also ; because he would have been in direct communication with the Danes and with Davoust's force at Hamburg, and both his flanks would have been secured by his chains of fortresses on the two rivers. Already had Blucher and the Swedes felt his first stroke ; the next would have taught the Allies that the lion was still abroad in his strength, if at the very moment of execution his marshals had not opposed his views, and the Bavarians, on whom he depended to check the Austrians in the valley of the Danube, had not made common cause with their opponents, and marched together towards the Rhine. The battle of Leipsic followed ; the well-known treason of the Saxon troops led to the victory gained there by the Allies ; and Napoleon, now the prey of misfortune, reached France with only one-third of his army ; having on the way however trampled in the dust the Bavarian Wrede, who attempted to stop his passage at Hannau."

As examples of the defensive employment of a great river which forms the frontier of a state, the operations of the French armies on the Rhine, in the wars after the Revolution, may be adduced.

Because there the operations based on, proceeding from, and completely involved with the offensive manœuvres by means of rivers, the offensive defensive manœuvres by means of rivers (remembering the Principle XXVI.), and the defensive manœuvres by means of rivers (always a *pis aller*), form so large a part of strategy, and that these all depend greatly for success on the effective and efficient strategical employment of a river, which in its turn depends in all cases most essentially on the excellence of the *Têtes-de-pont* of the rivers, it has been thought expedient to treat of the guiding principles to the construction and of the ways of constructing *Têtes-de-pont*. And while speaking of the number of the offensive and defensive strategical operations depending on rivers, it may not be thought

useless to insert the following quotation from the Archduke Charles. It may be stated that the quotation is a commentary on the Principle XXVI.

"There is no better defensive attitude than when positions are occupied which continually menace the enemy with an attack, and oblige him to think of his own safety. Nothing is better calculated to effect this object than *têtes-de-pont*, behind which the troops are cantoned. All other positions may be turned; but a *tête-de-pont*, properly constructed, placed out of the power of a *coup-de-main*, and perfectly covering the passage it defends, is subject to no one of the disadvantages so formidable to other positions, because it can never want either a sufficient garrison, or provisions, or ammunition; and the enemy is obliged to observe incessantly an outlet, from which superior numbers may be thrown upon him."

It may be not unworthy of remark that in the cases in which a base of operations is formed by a chain of mountains, possessing as a consequence *defiles*, and when a base is formed by a great river, unfordable, possessing bridges, and when a base is formed for a maritime power by a line of coast possessing seaport fortresses, harbours towards the sea and fortresses towards the land, the defile of the mountains, the bridges of the river, and the seaport fortresses of the coast line, are analogous points; they are the decisive strategical points of the bases; and it is from them equally that offensive and defensive operations are based and proceed. Having then alleged and explained the great importance of *têtes-de-pont* in so large a class of strategical operations, and the consequent importance of excellence in their construction, as the reason of the introduction of this part of the chapter on fortification into the treatise, the subject may be proceeded with.

The *têtes-de-pont* of which it is proposed to treat are those destined to protect the retreat and facilitate the offensive egress of an army or great detachment, and to render the approach to, and therefore the passage of, the bridges covered impossible for the enemy. They are the *têtes-de-pont* to be placed on great rivers, when any very important strategical line passes a great river.

The purposes of these *têtes-de-pont* then are,—

1. To protect the passage of a great river by an army, or great detachment in retreat.
2. To protect and facilitate the offensive passage of a river by an army, and its egress on the opposite bank.
3. To render the approach to, and therefore the passage of, the bridge it covers impossible for the enemy.

When the fortifications lie almost wholly on one side of the river, there being only a few works, and those for the purpose of supporting the former on the other side, and the fortifications being only constructed to answer the three great purposes mentioned as those which *têtes-de-pont* are to serve,—viz., the purpose 1, provided the army is retreating towards one of the banks of the river only (or towards the right bank or the left bank only), intending to pass to the other; the purpose 2, provided the army is passing offensively *to that same bank*; and the purpose 3, provided the army is endeavouring to pass *from that same bank*. The *tête-de-pont* formed by such fortifications is called a *Single Tête-de-pont*. And when, on the contrary, the fortifications lie about equally on both sides of the river, and are constructed so as to answer the 3 purposes equally on whichever of the 2 sides the army is retreating, to whichever of the 2 sides the army wishes to pass offensively, and from whichever of the 2 sides the enemy wishes to penetrate to the other, they form a *Double Tête-de-pont*. And it is proposed to treat on the Single and Double *Têtes-de-pont* successively, and to treat on the former first is the most natural and convenient order.

And first on Single *Têtes-de-pont*.

The Principles 3 and 5, which are principles both of Strategy and Tactics, require that the *têtes-de-pont* should be so constructed as to be capable of being efficiently defended by the fewest men possible; in other words, that the purpose 3 may be efficiently executed with as few men as possible.

And the purposes 1 and 2 require that they should be so constructed as *to form both a most advantageous defensive and offensive field of battle for the greatest number possible*.

Moreover the purposes 1 and 2 require that the fortifications to be erected should by their bodies, which they must for this purpose interpose, protect the bridge and the area of ground before it from the enemy's fire, or shall by their fire remove and keep the enemy at such a distance, that he shall not be able to turn his fire on the bridge, or said area of ground before it ; or partly protect the bridge by the interposition of their bodies, and partly by removing the enemy by their fire from the neighbourhood of the bridge.

That, then, which is to be done in constructing a *tête-de-pont*, is to form by permanent fortifications, assisted or not by fieldworks, a tactical front on the ground before the bridge, or, in other words, to furnish with one or more great tactical pivots which are to be in permanent fortification, assisted or not by field works, a tactical front on the ground before the bridge, which tactical front shall, with its fortifications, be capable of being held against the enemy by the fewest men possible, and of being no less capable of being occupied offensively or defensively by an entire army.

It is hoped, then, that the problem to be solved has now been distinctly enunciated,—a great point towards the solution of many problems.

It will be seen that since the fortifications *are to be capable of being held by the fewest men possible* for the longest possible time, and that these few will have to dispute the passage against an entire army, the following principle is arrived at.

PRINCIPLE.—If a single large enclosed bastioned fort can be placed so as to serve as well the purposes of a *tête-de-pont* as any other system of fortifications, it is to be preferred to all others.

Now it will be afterwards shown that a single large fort *can almost always, if not quite always*, be so placed as to answer all the purposes of a *tête-de-pont* better than any other system whatever. This will, it is hoped, appear at once to the reader as he proceeds. The dictum of Napoleon to this effect naturally deserves remark. Again, since the *tête-de-pont* is to protect the bridge head and the area of ground immediately before it by its body or by its fire,

remove the enemy to such a distance that he shall not be able to fire on the bridge or area of ground before it, and that it is to form both a most advantageous offensive and defensive field of battle for an entire army, to protect a retreat or facilitate an offensive movement, the next principle is obtained at once.

PRINCIPLE.—The single large enclosed bastioned fort is to be placed as nearly as possible exactly opposite the bridge, and at as great a distance as possible from the river consistently with its fire entirely and completely interdicting to the enemy an approach to the bridge.

As a proof, then, of the truth of these two principles, let us proceed to see how a hexagon with sides in length 500 yards each, directly in front of a bridge, and placed at the distance of 500 yards from the river, operates and answers the purpose of a *tête-de-pont*. Let the river be supposed to run in a straight line, and let the bastioned fort constructed on the hexagon be so placed that the capital of one of the bastions, which will be coincident with one of the three diagonals of the hexagon, is perpendicular to the line of the river, and in the same straight line with the bridge, (see the Plan VI. fig. 2,) and the angle of the bastion 500 yards distant from the river.

It is not stated, it must be remembered, that the hexagon is more advantageously placed when in this position, that is, when the capital of one of the bastions constructed on its sides is perpendicular to the river, than if the hexagon had a side parallel to the river, or were in any other position; nor is it at all meant to say that the advantages of a hexagon over a heptagon or pentagon are considerable. The only reason why a hexagon is taken and placed in this particular way is that the *explanation is shorter*, and the effect of the fortress *more easily described and readily seen* in this case, owing to an accident of geometry. Also the front of fortification being taken at 500 yards seems as well to require observation. This is certainly larger than ordinary, but perfectly justified by the increased range of musketry. It is the length of the *line of defence* considered with respect to the *range of musketry*, from the flanks of the bastions which kept the front of fortification to the

limits Vauban assigned, but the length of the line of defence in a front of 500 yards is much less compared with the present effective range of musketry, than the line of defence in any of Vauban's or in the Modern System, compared with the effective ranges of musketry for which they were calculated. But whether the front be taken at 500 yards the explanation is not changed at all, and the effects are scarcely at all altered.

The following construction will explain the figure which will be found Plan VI. fig. 2.

The river is painted light green, according to the convention for plans, and the bridge over it dark burnt sienna.

A perpendicular to the river is drawn from the centre of the extremity of the bridge, and a distance of 500 yards is measured off along this from the bank of the river.

Measure off the same distance again, and with its extremity furthest from the river as centre, describe a circle and place a regular hexagon in it, having two of its angular points in the perpendicular by Euclid's construction for that purpose. The circle is dotted in the figure.

The sides of the hexagon so constructed are manifestly each 500 yards, and it is, therefore, the one spoken of, and placed in the right position, and on its sides the bastioned fronts of the fort are to be constructed ; they are not inserted in figure because that is not found to be necessary.

It will be seen at once that two of the sides of the hexagon are perpendicular to the river.

Let the two angular points of the hexagon *not* in the perpendicular and furthest from the river be joined, and this straight line, which is manifestly parallel to the river, produced both ways. The line is dotted in figure. Let also the two angular points not in the perpendicular and nearest to the river be joined, and the straight line, which is manifestly also parallel to the river, produced both ways like the other. The line is dotted in figure.

Then the fire of the fronts of the fortress constructed on the sides of the hexagon perpendicular to the river may be approximately considered as sweeping the ground included between the two dotted straight lines thus drawn parallel to the river to the extent of 1,000 yards on each side of

the fortress. And the length of the portion of each of these two straight lines included *within* the fortress is found from the formula (the side of the hexagon being 500 yards) :—

$$\begin{aligned}\text{Log. }_{10} (\text{length of portion included}) \\ = \log. 500 + \log. \cos. 30^\circ - 10 \\ = 433 \text{ yards nearly.}\end{aligned}$$

Hence the fortress and the fire of its sides perpendicular to the river may be considered as *interdicting* the enemy from a portion of ground 500 yards in width, and 2,433 yards, or about $1\frac{1}{2}$ miles in length, having its centre opposite the bridge, and having its furthest bounding (dotted) straight line at the distance of about 1,220 yards, or about $\frac{3}{4}$ of a mile from the river.

In this approximation to the effect of the fire of fronts of the fortress perpendicular to the river, the approximation falls short of the truth, for the fire of the curtain and of the bastions can manifestly not only sweep this area between the dotted lines, but a good deal of ground on each side of it.

Again: the fire of the two sides next the river do manifestly most effectually prevent the enemy from crossing the bridge, being near enough to use grape if they please at its most effective range. There is, then, no fear of the enemy passing the bridge, so long as this *tête-de-pont* remains untaken, and, in case of retreat, pursuit by the bridges is perfectly stopped till the fortress is taken; in other words, pursuit is baffled completely.

The effect of the two remaining sides compels the enemy to a circuit, and makes him keep a respectful distance, but this effect need not be spoken of in explaining the capabilities of the fort as a *tête-de-pont*. Their effect is felt on their completing the enceinte of the fortress, and enabling a small garrison to hold the *tête-de-pont* against an army which has nothing else to do except open the trenches and besiege the fortress, which will give time for the arrival of the army and the termination of any decisive strategical operation it is engaged in.

The fortress being a single *tête-de-pont* supposes that the

holders of it are masters of the opposite bank. Then heavy batteries, placed at 1,500 yards or at a greater distance on either side of the perpendicular line on the opposite side of the river to the fortress, and firing across the river, complete the enclosure of an area of ground interdicted to the enemy, whose length they may augment to 2, $2\frac{1}{2}$, or even 3 miles, and whose breadth, referring to the figure, is more than 1,200 yards, or about $\frac{2}{3}$ of a mile. Hence it is clear that it may be safely said the hexagon, assisted by the two batteries (for which small casemated forts may if thought necessary be built) on the other side, renders inattackable an area of ground in length $2\frac{1}{2}$ miles, and in breadth $\frac{2}{3}$ of a mile, perfectly capable of receiving an army in retreat, and protecting it while the army defiles across the bridge, however long in reason that process may require. Also the army finds no difficulty in entering this protected area in retreat, for it might clearly if it pleased form itself in line of battle, and march into it in that state, so large is the entrance. And, again, every facility is presented to an army which is about to cross the bridge offensively, for it finds a sufficient space for forming its line of battle before advancing to the enemy, in which space it is perfectly safe from an offensive movement on the enemy's part. A red strip represents a line of battle which an army, after crossing the bridge to take the offensive, might form under cover of the hexagon and batteries on opposite bank in perfect safety, before proceeding to drive the enemy from the neighbourhood of the *tête-de-pont*, supposing him to be there. And lastly, calling attention to the fact that whereas other single *têtes-de-pont* only prevent the enemy crossing the bridge from one side to the other, viz. from the side on which the *tête-de-pont* is, the single large fort, which is equally *only a single tête-de-pont*, interdicts equally the passage of the bridge to the enemy both ways. The works of other *têtes-de-pont* are taken in rear and reverse by an enemy coming to the bridge from the other side. In this, however, *têtes-de-pont* formed of two or three scattered detached enclosed forts which the nature of the ground may require, to replace the single one, of which it is about to be treated as forming the next best

tête-de-pont, are to be excepted. It may be remarked, that there is no reason why a large parapet of earth should not be raised up round the bridge-head when a single fortress is used as a *tête-de-pont*. It may be useful, and is good as a precaution, and it costs no more than the labour, for it need only be of earth, and need be of no particular profile. The two lines, *a a* in figure, represent what might be the ground plan of it, and other traverses, *b b*, so placed that the artillery from the fort may fire in the direction of the length, so that an enemy may not be able to use them for shelter, may also be placed for the protection of the bridge. These traverses will be solely for the purpose of receiving any shot the enemy might send at a bridge from a long range, and compelling him, if he is determined to fire at a long range on the bridge, to come close down to the water's edge to do so, when the batteries from the other side will open on him.

A consideration of the conditions which a *tête-de-pont* must satisfy in order to its excellence and effectiveness, indicates the second best kind of *tête-de-pont* is formed by a system of detached enclosed forts, and the fewer and larger they are the better; situated on an approximate arc of a circle, having the extremity of the bridge on the centre of its chord, and the chord in length approximately 2,000 yards, and its perpendicular sagitta 500 to 1,000 yards. It is to be remarked that the extremity of the bridge is in the centre of the *chord* of the arc of a circle, not in the centre of the circle itself, and that the area of ground included by the system of two or more detached enclosed forts is *not* approximately a *sector*, but a *segment* of a circle.

It is clear from what has been said, that the conditions which the system of forts is to be constructed so as to satisfy, are—

1. That the system be such as to be capable of the longest defence by the fewest men.
2. That it shall be equally capable of interdicting the passage of the bridge to the enemy from whichever side he may wish to come.
3. That the system shall be such that some work or

other in it shall cross by a fire too destructive to be passed every piece of ground by which the bridge may be approached, or by which the bridge might be issued from.

4. That the system shall form the pivots of a tactical front large enough and very advantageous for an army, whether the army may wish to advance offensively from out the area enclosed by the system, or may wish to retire into the area enclosed by the system.

From these conditions the following conclusions are drawn :—

That it would be better if the number of the detached forts exceeds two (perhaps it would be better if it exceeds one), to have the forts casemates. The condition 2 indicates that it is much better to have the forts bastioned or parapeted all round, instead of being only palisaded, &c. at the gorges. That the less the number of the forts and the larger, the better, because the difficulty of taking a fort is not directly proportional to the increase of the magnitude of the fort, but the difficulty of taking increases much more rapidly than the size and number of the garrison. The subject of this second best kind of *têtes-de-pont* will be concluded with a description of the *tête-de-pont* of Aarberg, whose name will sufficiently indicate to the reader that it belongs to a bridge over the Aar in Switzerland. This *appears* to be a bad *tête-de-pont* of the worst of the two kinds, and bad of its kind, because, first, there appears to be too many separate works, and secondly, because the works are not parapeted or bastioned all round. The *tête-de-pont* is not yet finished, but when it is, the exterior enceinte is to be composed of 10 detached works of different forms and sizes. The arc of a circle to which this enceinte approximates in shape has its chord of from 1,500 to 1,600 yards, and its perpendicular sagitta of from 600 to 700 yards. Three only of the 10 works have been constructed ; they are the 3 principal ones, and have the ordinary relief of large fortresses of the modern system. These 3 works are situated on the heights, and command, as directly as possible, the principal approaches ; the remaining seven are not to be made till there is a good chance of the *tête-de-pont* being wanted, because the Confederation entertain a laudable

regard for the interest of money. In considering the *tête-de-pont*, it must not be forgotten that the 7 works remain to be made, and the 3 principal ones have to be palisaded at the gorges. The *tête-de-pont* has likewise a *réduit* constructed before the bridge, and which is a great *redan-à-ailerons*.

As an example to the *têtes-de-pont* of the best kind. Turenne, in the campaign of 1645, was driven on to Phillipsberg by a very superior force, and there was no bridge over the Rhine, but he encamped *between the fortress and the bridge, under the protection of the guns of the fortress in the area, analogous to that which has been shown in the case of the hexagon to be protected.*

As an example of the fact that the construction of a *tête-de-pont* is the construction of the tactical pivots of a tactical front before the bridge, &c. &c.

In the campaign of 1741, the Marshal Saxe, having crossed the Moldaw to attack a detachment of 14,000 men, which had just been thrown into Prague, left 1,000 infantry on the Moldaw, with orders to entrench themselves on a height which was directly opposite the bridge. The Marshal ensured his retreat by the power he thus obtained of ranging his army between the entrenched height and the bridge. The Marshal did, in fact, *only construct a tête-de-pont* (though not a permanent one) *of the best kind.*

With regard to the *Double Têtes-de-pont*.

As to their construction, all that appears necessary to say is, that the construction of a double *tête-de-pont* is nothing more than the construction of two single *têtes-de-pont* exactly opposite one to another. As to the great strategical advantages of a double *tête-de-pont* constructed after most correct principles, they are so many, so great, and so manifest, that it would be absurd to be diffuse on so ample a subject. They are among the richest jewels in the strategical theatre. Any one who has read the writer's treatise on Strategy, and this treatise thus far, will, it is hoped, be convinced of the vast value of double *têtes-de-pont* and appreciate somewhat the vast field for decisive strategical manœuvres which they open.

It would of course be best always to have double *têtes-de-pont*, and no single. This expense prohibits, and the general principle for placing the single and double remains to be enunciated.

PRINCIPLE.—The more or less parallel a river is to a line of operations, the more or less important is it that the *têtes-de-pont* should be double.

Hence, the more perpendicular a river is to a line of operations, the less important it is to have double *têtes-de-pont*.

Hence, too, it is clear that the rivers forming bases of operations of the best kinds, as the parallel and perpendicular bases, and projecting angular bases, are to have double tête-de-pont.

It is explained in the writer's elementary treatise on Strategy, how a system of fortresses for the defence of a country is determined. Among the most decisive strategical points of a country which are to be chosen as the sites for fortresses, those which demand *têtes-de-pont* will be very prominent. And it also follows from the principle, *that in fortifying a country it is more or less necessary that a tête-de-pont at a decisive strategical point over a river, should be double according as the river to which it belongs leads more or less directly from the centre of the country to the frontier.*

Thus, for example, taking the map of France, the *têtes-de-pont* on the Garonne and Rhine may be single, while those on the Rhone, the Loire, the Seine, the Marne, should be double, as well as those on the Meuse, supposing the Rhine to be the boundary of France.

Def. The fortifications about the point of junction of a river with a monster affluent, and lying equally on the three angles of ground around the point, so as to answer the purposes of a *tête-de-pont* from whichever of the 3 ways the enemy may come, and on whichever of the 3 ways the army may go, is called a *Triple tête-de-pont*.

On Triple Têtes-de-pont.

The principles of fortification indicate that the best way to build a fortress at the junction of two great rivers, or,

in other words, at the junction of a great river with a monster affluent, since one of the rivers is always the affluent, is to build 3 closed bastioned forts, one in each of the 3 angles of ground around the point of junction, placing them as nearly as possible on the straight lines drawn from the point of junction, bisecting the angles of ground, and at the greatest distance from the point, so as to include between them the largest possible area of ground consistently with their being able to cross their fire, so as to prevent the enemy penetrating between them.

The second-best way, in the case it is too expensive to have the forts perfectly enclosed by a bastioned enceinte in masonry, is, that the forts be palisaded, &c. at the gorge, but must flank one another mutually, so that the enemy may be kept outside the circle through the faces of the forts. These forts will of course include the greatest area possible, consistently with the safety of the circular line to be defended.

Fortresses situated *à cheval* (that is, part on one side, part on the other, borrowing a metaphor) on a great river, or at the junction of two great rivers, *i.e.* at the junction of a river with a monster affluent,—for one of the two is always the affluent,—when formed of *a continued enceinte*, constructed on a hexagon, a heptagon, an octagon, or any polygon having the point of junction at its centre, form in the former case a double, and in the latter case a triple *tête-de-pont*; but *têtes-de-pont* so formed are not good ones; and unless the enceinte be very large indeed, and furnished with far more inlets (and consequently outlets) than is at all ordinary, an army retreating before an enemy pursuing in accordance with Principle III. Case 10, and Principle XLI., would be ruined; nor do the scanty outlets from the fortified continuous enceinte permit the army to advance readily and advantageously if it wishes to cross the river offensively. Such *têtes-de-pont* are not constructed in accordance with the principles, nor do they at all adequately answer the requisitions of a *tête-de-pont* as these have been enumerated.

PART III.

ON THE CHEAPEST SYSTEM OF FORTRESSES, AND THE BEST, CONSIDERED WITH RESPECT TO MILITARY, NAVAL, AND COMMERCIAL ADVANTAGES, FOR THE DEFENCE OF AN ISLAND POSSESSING A DECIDED MARITIME ASCENDENCY; AND ON THE STRATEGICAL ADVANTAGES OF THIS SYSTEM.

A DECIDED maritime superiority in war is always accompanied by the best commercial marine by far, and the largest commerce by sea. Hence such an Island naturally possesses gigantic sea-ports; some more especially devoted to war, others to commercial purposes; and these gigantic sea-ports, containing immense arsenals, docks, dock-yards, magazines, storehouses, and fleets, require imperatively to be among the fortresses which are to form the system, both because of the intrinsic nature of the arsenals, docks, dock-yards, magazines, &c. contained in them, and because they are manifestly, apart from their immense intrinsic value, and their value in order to the maintenance of the decided maritime ascendency, decisive strategical points of a very high order, both because they close to the enemy the most important communications, by shutting to him the largest and most important harbours and places of landing, and keep those open to the army which strategical reasons may require to be embarked from any one of the gigantic sea-ports, to be landed at any other by means of the fleet, every vessel in which, being a more or less powerful Steamer, the operation can be effected readily.

Besides, as these sea-ports are naturally centres of commerce and marine manufactures and industry, and as such centres inevitably attract to themselves the large roads of the Island, which are the great communications, and become, therefore, centres of communications also, and decisive strategical points of a very high order—

Hence the gigantic sea-ports of an Island manifestly enter into the system of fortresses for its defence ; and no less are they manifestly the best points which could be chosen as fortresses, with a view to the offensive against a foreign power.

But since—

1. The system is to be the cheapest compatibly with efficiency.

2. That all systems of fortresses for the defence of countries lie regularly on the boundaries of one or more concentric areas, having their common centre about the centre of the country, the largest of which areas is the country itself, and the others each successively smaller than the other ; but all the areas like to the exterior area in shape, *i.e.* like to the shape of the country itself ; this rule receiving more or less modification in consequence of the necessity of choosing the most important decisive strategical points which have a good tactical configuration for the sites of fortresses.*

3. That some, or all the gigantic sea-ports along the coast must be fortresses in the system.

Hence it follows from these 3 premises, that there is only to be one area, which is the exterior area, and therefore the whole Island, along the boundary of which the fortresses are to be placed as regularly as possible. But the defensive system, and defence of the Island, would be so much improved by having in addition a single large fortress on that point, towards the centre of it, which commands the most and most important communications, because this central fortress connects the other fortresses, and increases greatly the number of directions in which the army of the Island can retreat, and is in full accordance with the Principle II., which should here be referred to and read, and so greatly diminishes the distance to which, at most, the army can be driven to retreat, in accordance with Principle XLI., that such single fortress must be allowed, notwithstanding its cost. Of course, the more of the concentric areas bounded by fortresses placed

* This is explained in the writer's elementary treatise on Strategy.

regularly at intervals along the boundaries, the better, provided the fortresses be well placed on decisive strategical points of a high order, and with good tactical configuration, provided the number of fortresses, and, consequently, the total number of the men composing the garrisons, be not out of proportion to the whole army. However, the defence of the fortresses might be committed, in great part, to the militia; and the difference between a good militia-man and a well-trained and thorough soldier is not nearly so great when both are engaged in the defence of a fortress, as when both are employed in field operations. But the system is to be the cheapest compatibly with efficiency, and hence will only be composed of the fortresses made by fortifying some or all the gigantic sea-ports, and the single large fortress towards the centre of the country, which must from its strategical advantage be taken at its cost.

When the shape of the Island is so unsymmetrical that a single fortress, place it where you will, is so unsymmetrically placed that it fails in its object of connecting all, or even a great part of the fortresses round the coast, and increasing largely the number of directions in which the army can retreat on a fortress from any point whatever in the Island where it may have experienced a disaster, and diminishing the distance which it will have to retreat, in the case that the tactical theatre of war lies in many parts of the Island, then this single fortress must be replaced by 2 or even 3 fortresses ; cheapness must submit, for the thing is necessary. Thus, for example, taking the unsymmetrically shaped Island formed by England, Scotland, and Wales, the position of a single fortress towards the approximate centre of the whole would be in the north-west of Yorkshire, a position manifestly unsymmetrical with respect to the fortresses round the coasts of England, Scotland, and Wales, and far too distant from the fortresses of the South coast of England, and of the North of Scotland. In this case, then, the approximate form of the whole Island being considered a bad figure of 8, with the top loop smaller than the bottom, and contact of the two loops of the 8 formed by a line drawn from Longtown, on the Solway Firth, to

Ahnwick, or by the line of the Picts' Wall, the single fortress must, to answer the purposes of its design, be replaced by 2, one towards the centre of each loop; the one towards Derby, the other towards Aberfield, near Loch Taye.

Having then decided—

PRINCIPLE I.—That the system of fortresses is to be formed of fortresses constructed by fortifying some or all the gigantic sea-ports round the coast, and by 1, 2, 3, or even more fortresses, in case the unsymmetrical formation of the Island renders this imperatively necessary, in order that the purposes which the one fortress in the case of symmetrical formation fulfils may be answered, viz. that the number of directions in which the army may from any point whatever in the Island retreat on a fortress be much augmented, and the distance it has to retreat much diminished, and its lines of operation always shorter, while the enemy is everywhere hemmed in in a much smaller area, bounded by fortresses.

II.—That the fortresses are to be, as far as possible, equally distributed round the coast, at equal distances from one another.

III.—That each of the fortresses shall, as a matter of course, be constructed in accordance with the principles for the construction of fortresses already given in Part I. of this Chapter, viz. that the fortresses of a country ought in general to be formed of detached, completely enclosed, casemated forts, and of the largest and fewest possible of these necessary for the purpose, flanking one another mutually, and enclosing the largest possible area of ground consistently with its adequate defence by a garrison of the number which is to be allowed, and to command as directly as possible all the communications which lead to and from their sites, and to form the tactical pivots of an extremely advantageous tactical front, which an entire army might occupy defensively without encumberment as an impregnable position of battle, and from which it might operate offensively without hindrance or encumbrment, having ample room for doing so, protected by the heavy guns of the forts. In fact, large fortresses should, wherever it is

possible, and they are not designed for a special and very exceptional purpose, be large entrenched camps, presenting on all sides tactical fronts, whose tactical pivots are the detached forts in masonry forming the fortresses, and which form an impregnable position when occupied by an entire army as a field of battle, while the separate detached forts, mutually flanking one another, and casemated, shall be capable of being defended by a garrison.

IV.—That the fortresses shall be good and safe harbours, and all capable of admitting large steamers; for it is not necessary that all should admit men-of-war, though it would of course be much better that all should.

The last Principle which remains to be stated to fix finally the required system, and which is a deduction from the principles of Strategy, applied to the circumstances of an Island possessing a decided maritime superiority, as will be seen when the advantages and properties of the system come to be explained, is—

V.—That the fortresses along the coast of the Island shall be placed on the great rivers and entering arms of the sea, and as far as possible up these rivers and arms towards the centre of the Island, or rather towards that of the central fortresses already spoken of, if there be more than one, the Island being unsymmetrical in shape, to which they belong, consistently with the rivers and arms of the sea being at the sites of the fortresses so broad, or have such a configuration, that so long as the fortresses remain untaken steamers bringing supplies of any kind, detachments, or even an army in, or taking them out, can go out and come into the harbour with safety from the attacks (which can of course be only made by constructing batteries on the river side or coast) of the enemy on land, if he is besieging or investing the fortress. Before proceeding to explain the advantages of the system of fortresses now fixed by these five Principles, the principles and the subject may be exemplified by picking out on the map of England and Wales the approximate sites which the Principles appear to decide on as those for the fortresses in the lower and larger loop of the figure 8, spoken of as approximately representing the whole Island of England, Wales,

and Scotland. It must be remembered that the writer in applying the principles to England and Wales has only a small map to look at, and is not answerable for anything which is rendered impossible or absurd by local accidents, such as the great exceptional difficulty of navigation in some rivers, the extreme exceptional shallowness of some arms of the sea; what the writer proposes to do is, to point out the places where, having a common map of England and Wales only as data, with nothing else, the principles indicate that fortresses should be placed; all that it is pretended to give is a very rough first approximation, the accuracy of which is to be afterwards verified by means of maps of the particular localities involved, on a much larger scale, and by a survey of localities, consideration of soundings, currents, tides, winds, &c.

1. To begin with the Thames. It appears from the map, at first sight, that the fortress in the Thames should be situated somewhere on the long tongue of land which has Rochester at its base, and is contained between the Thames and arm of the sea which receives the Medway. It appears, too, that the fortress might be on either side of the tongue, for both the Thames and arm of the sea appear on measurement on the scale at least $1\frac{1}{4}$ mile wide. As well it appears that the base of this tongue of land, formed by the shortest straight line drawn across the tongue from the mouth of the Medway, is not more than 3 miles in length, and is flanked on the left by the Medway, and right by the Thames. A question then arises,—Would it be expedient to form a large fortress by fortifying this line of 3 miles by means of large detached bastioned forts, or could any fraction of this tongue of land be formed into the required fortress? However this may be, Rochester must, from the incomplete data taken, be considered as the approximate site of the fortress of the Thames.

2. Proceeding along the coast round Kent and Sussex we come to the 3 small entering arms of the sea, the centre of which forms the harbour of Portsmouth, which place is a fortress.

3. Continuing the circuit, we arrive at the bay in which Axmouth and Bridport lie; the neighbourhood of one of

these places would appear a proper site, or, these being eminently deficient in characteristics not to be learned from the map, and Exmouth not, then Exmouth.

4. The large entering arm of the sea forming the Bristol Channel and the Severn, requires the fixing the next fortress approximately at Bristol.

5. The next fortress on Cardigan bay, at the mouth of the Dovey.

6. The next near Liverpool, or further up the Mersey or Dee, if the arms of the sea permit.

7. The next towards Burton, on Morecambe bay.

8. The next towards Longtown, on Solway Firth.

9. Berwick-on-Tweed.

10. The mouth of the Tyne, or the mouth of the Tees.

11. The mouth of the Humber, towards Hull.

12. The Wash towards Lyme Regis.

13. It has been said that the centre of the lower loop of the bad figure of 8 formed by England, Scotland, and Wales, would be approximately Derby; but were Derby chosen, it is clear that the fortresses of the north of this lower loop, viz. England and Wales, would, from the shape of the Island, be nearer together, and consequently the objects which it is desired to gain equally for all points of England and Wales, by means of a central fortress, would be far better obtained for the fortresses of the North of this lower loop than for those of the South, and besides the fortresses of the South appear the most important from their situation. In fact, as a nearer approximation to shape, England, Scotland, and Wales, instead of being taken as the approximate bad 8, is more nearly like 3 loops, the central one of which is formed by the 6 northern counties of England, being smaller than the other 2. The fortresses round the boundary of this central loop, it being far smaller than the southern loop, are therefore much nearer together than those round the southern loop; and therefore the fortresses of the southern loop have to be most consulted in fixing the site of the central fortress for England and Wales.

Hence the site of the central fortress may be taken at Warwick on the Avon, or Northampton, or Leicester.

The hamlet of Naseby is a still more central point, but cannot be taken, as it commands no communication at all; however, distances may be measured from it, as it is just about the centre of a circle through Warwick, Northampton, and Leicester.

To see the distances between these fortresses for England and Wales so placed. Measuring in a straight line—

From Rochester to Portsmouth, 80 miles.

From Portsmouth to Bridport, 70.

Bridport to Bristol, 70.

Bristol to mouth of Dovey, 90.

Mouth of Dovey to Liverpool, 70.

Liverpool to Burton, 60.

Burton to Longtown, 60.

Longtown to Berwick, 70.

Berwick to Stockton-on-Tees, 70.

Stockton to Hull, 65.

Hull to Spalding, 60.

The Wash to Rochester, 85.

And the distances from Naseby to Rochester, Portsmouth, Bridport, Bristol, mouth of the Dovey, Liverpool, Hull, and Lyme Regis, are respectively 100, 105, 130, 85, 110, 90, 100, 60, for the fortresses which belong to the 6 northern counties of England may be omitted from the enumeration.

It now remains to consider the strategical advantages and properties of such a system for the defence of an Island.

Before proceeding to do this, in order that the subject may be presented as definitely as may be, *let an Island be supposed to have such a system of fortresses for its protection, and let an invading fleet be supposed by some means to have eluded the vigilance of the fleet, and to have landed an invading army*; as, for example, the invasion being unexpected, and the enemy's ships not concentrating in one or two of their ports, but having sailed out of different ports, and concentrated at some point of concentration on the ocean, given by its latitude and longitude, having previously embarked the troops destined to the invasion, on pretence of taking them to some colony or for action and

conquest in some country other than the Island. It is then supposed that the invading fleet has succeeded in bringing from the point of concentration and disembarking successfully the invading army in the Island, and that the Island is furnished with the system of fortresses already determined on by the principles ready for its defence. Then the news of the landing of the invading army being communicated instantly through the Island by Electric Telegraph, all arms, ammunition, and military stores of all kinds will be removed with all despatch to the nearest of the fortresses, as well as all the provisions in the neighbourhood, as far as may be, till the magazines which each fortress possesses are full, and all that can be received on shipboard in the harbours embarked. The remainder will move towards the opposite part of the Island to that at which the hostile army has landed. Magazines will be formed ready *en échelons* on the great roads from all the distant fortresses, to form the *étapes*, or provision stations, in case the army is compelled to retire on any one of them, or in case it is determined that any of those distant fortresses is to be for a time the base of the army's operations. Particular attention would be paid to the carrying into the fortresses all the saltpetre and ingredients of gunpowder, and all powder-mills out of the fortresses will, on the enemy's approach, be destroyed. Not to digress, by entering on details which are out of place here, the decided maritime superiority of the Island, which forms a part of the hypothesis, warrants the assertion in consequence, that as soon as the invading army has landed it can no longer hope for anything approaching to regular supplies of ammunition, food, reinforcements, &c. from home; in fact, the fleet of the Island, informed from the land of the position of the invading army, will pay particular attention to those places on the coast at which, in consequence of the position of the invading army, it would be expedient to land supplies for it. The line of operations, then, of the invading army is clearly broken, and its communications lost as soon as it is landed; already the most powerful Principle II. is dead against it, and it is in a state which the ablest generals of all times have agreed to consider

as almost inevitably preceding the total destruction of *any army*.

The Principle II. Case 5, is certain of being applied in the case the enemy suffers a defeat; for deprived of a single fortress, he is every way surrounded by the sea, into which he must be driven. It is quite certain that the invader will not be able to land sufficient provisions on which to subsist an army adequate in numbers for any length of time.

It is, then, now time to proceed to the consideration of the strategical advantages and properties of the system of fortresses fixed on.

These advantages and properties are:—

1. Since an invading army must by want of supplies be speedily driven into the interior of the Island in order to seek supplies, the rivers and arms of the sea running up into the interior of the Island become parallel and perpendicular bases for the Island army; and therefore the higher up the rivers and arms of the sea the fortresses are towards the centre of the country, or the central fortresses in case the unsymmetrical conformation of the Island requires more than one central fortress, provided they are in accordance with the condition stated in the Principle V. of the principles given for the formation of the system, the better. This fact is a manifest deduction from Principle II. which is a principle both of Strategy and Tactics, and by the Principle II. of Strategy and Tactics the Principle V. for the formation of the required system of fortresses is therefore justified.

2. In consequence of the invention and present perfection of Steamers, which under anything like ordinary circumstances can make head against and are independent of wind and tide, and the *power of water carriage* for the conveyance of heavy materials of all kinds from any one of the fortresses to any other, excepting of course the central fortress or fortresses, this system of fortresses gives the Island army the power of changing its line of operations instantly, at any moment, with the certainty of having a new base and new line of operations perfectly ready.

The system then of fortresses determined on, confers the power of perpetually making brilliant applications of the Principle II. Case 3, in which the following words will be found:—"To change the line of operations one possesses for a new one when this is practicable, in order to operate as far as possible on the communications of the enemy without exposing one's own, is among the ablest and most decisive manœuvres in war:" for any one of the fortresses round the coast may be taken as a new base of operations at any moment, the army may at once begin to operate from it as such new base, with a new line of operations ready to its hand, from whence all the necessaries for an army—as ammunition, artillery, provisions, reinforcements, &c.—can be drawn to any extent; for by means of the Steam fleet all and every necessary for the army may from the moment the army has decided on any particular one of the fortresses as a new base, begin to be concentrated from the other fortresses into this particular fortress; and, indeed, if the maritime superiority of the Island be undoubted over the enemy, may begin to be concentrated from all parts of the world with which the Island is not at war, and from the numerous colonies which so maritime an Island will naturally possess. Thus, referring to the system spoken of for England and Wales, supposing a British army based on a great fortress near Hull, one near Liverpool, and on the fortresses of the six northern counties; and it became very advantageous to change the base of operations for a new one formed by the large fortress of Portsmouth (that fortress being properly constructed for the purpose), the contents of the fortresses of Rochester and Bridport might if necessary be emptied into Portsmouth in less than four days, while the contents of Hull and Liverpool might be at Portsmouth in great part in less than a week.

3. The invading army would never be able to know even approximately where the Island army really was, so that it could never attempt a military occupation of the Island; for it would be necessary for it to keep together, because if it left a detachment the army of the Island or a sufficient fraction of it might be embarked from the fortress

nearest to the position it was in when the information was received that the invading army had left this detachment in a certain place for a certain purpose, and disembarked at the fortress nearest to the detachment, whence it might be on the detachment before the enemy had any idea of the operation. Hence the system, undoubtedly, by concealing and expediting manœuvres, confers the power of making advantageous applications of the Principle III. In fact, recurring to the hypothetical system spoken of for England and Wales, a British army of 50,000 men at Hull is a British army of 50,000 men at Rochester, a British army at Portsmouth, at Bristol, &c.

4. The most important advantages of which the Principle II. Case 1 speaks, are at the disposition of an army which can retreat in every direction on good bases of operations formed by vast, impregnable, entrenched camps, in permanent fortification, furnished with unlimited supplies. Thus, recurring to England and Wales, a British army at Aylesbury might retreat on Rochester, Portsmouth, Bridport, Bristol, Warwick or Northampton or Leicester, (whichever of the three is chosen as the central fortress,) Hull and the fortress on the Wash; and the Island army might therefore operate at pleasure with safety on the flanks and rear of the invading army. It is quite true, however, that the Island army has not this Principle II. Case 1 so fully in its favour as if the invader was obliged to retreat in one direction only, for as he has no base it matters little to him where he goes; still, were it not for the fortresses, the army instead of being on equal terms with the invader in this respect, and at the same time possessing in addition the immense advantage of a regular base and line of operations, would be obliged either to forego the immense advantage of being able to operate at pleasure with safety on the flanks and rear of the enemy, or the immense advantage of having an excellent base and line of operations. The fact is, that without the system of fortresses the army would have its lines of retreat restricted, while all directions would be equal for the invader.

5. The fortresses being all, with the exception of 1,

2, or 3 at most, by the sea-side, the rise and fall of the tide would, by the power it gives of inundating at pleasure, render the construction of the fortresses much cheaper, and their power vastly greater; as well the fortresses might on this account, and because the sea itself would form a part of their enceinte, be much larger at the same cost.

6. The fortresses would, in the case that the Island did not at first possess an army equal to the invading army, hold possession of the country and protect the organization of an adequate army; and in case the army of the Island received a defeat, they would always protect its re-organization and reinforcement; as well the enemy would, in consequence of the existence of these fortresses affording prepared lines of retreat in all directions, lose almost all the fruits of his Victory or Victories, without which a victory would be only a positive loss in his position.

7. If the invading enemy wanted to besiege one of the fortresses on the coast, he would be obliged to have and keep before the fortress a portion of his army larger than the Island army, for he knows not how soon the whole Island army may disembark from the sea at the fortress; in which case, if he had not a larger or as large a force there, the Island army would issue out offensively and seize everything, destroying the works. And if the invading army remain entire before one of the fortresses, in order to besiege it, the Island army may occupy the fortress as an impregnable entrenched camp, fully supplied with provisions and ready to issue out offensively as soon as the enemy attempts to separate, which he must do in order to get provisions. If the invader please, he may under vastly greater disadvantages emulate Schwartzenberg's glorious and scientific attack on Dresden.

8. Other great advantages of such a system of fortresses would be, that it would be hardly possible to find an enemy so foolish as to invade at all with the certainty before him of the ultimate ruin and destruction of his army, and the immense additional confidence Victory—(certain to come as soon as an army equal in numbers to the invading army, supposing an equality in troops can be organized, which

organization has been protected and provided for)—surely and certainly would inspire, both in the army and the population; the dispiriting influence which his position must have on the enemy, if he know anything whatever of war, for his destruction must surely appear to him certain; and not least, the power of saying to the invading army, “If you commit any outrages which pass the limits of legitimate civilized war,—if, for example, you recklessly burn anything, &c.—you are to expect no quarter, which quarter you are certain to want.”

To glance briefly at the probable way events would run after the landing of the invading army:—

The invading army having no base of operations, must come to want provisions, and to get these he must make requisitions, and to make the necessary requisitions he must occupy a large area of ground; in fact, in order to subsist at all, he must ultimately come to be obliged to occupy a very large area of ground. In the mean time, the Island army destined to take the field against the invader is rapidly collecting and being organized in the different fortresses; and is then concentrated in one of the fortresses, or, in case the enemy is distant, the army may be concentrated in several of the fortresses—as many as safe junction at the point of concentration permits—and an intermediate point between those several fortresses named as a point of concentration. The army then having been concentrated, marches towards the invader, having 1, 2, 3, or more of the fortresses for its base of operations, and good lines of operations, with its back well turned to them, along which all sorts of supplies can readily come to it; and places itself in a strong position menacing the enemy. Then the invader is in a dilemma, for he has to deal with an army which having regular supplies can remain concentrated. *If the invader remain concentrated he cannot subsist, for he has no regular supplies; and if he do not remain concentrated he is inevitably fallen on at the right moment, with the utmost vigour and rapidity, and defeated in detail.* Hence the invader's best course—apparently his only one—appears to be to march and attack the Island army, which will manoeuvre, by retiring

or otherwise, according to circumstances still maintaining a position so near the enemy that if he separates to obtain provisions he is lost ; and thus keeping him concentrated as long as possible and without provisions. If the invader's necessities and impatience at length induce him to commit a very serious blunder, and give the army the power of making a brilliant application of the Principles, and a brilliant offensive decisive point, which it is probable will be the case, the opportunity must be seized, for the mental and psychical qualities of the enemy will be in so bad a state after a defeat of this kind, and the courage and confidence of the army so high, that the invader is ruined. If there be at any time a doubt as to whether the invader's whole army is in front, an armed reconnaissance must be made, and he must be compelled to show himself. He will ultimately become very eager to attack, for if he does not his army will fall to pieces of itself. Since the enemy then is so eager to attack, this should be profited by to induce or compel him to run great dangers and risks, commit a great blunder, or fall on the Island army in a very strong defensive position, in order to attack. It is clearly the interest of the Island army to defer the battle, both because it must be every day increasing by reinforcements which are to put it into a position to be certain of a decisive victory, and because it is supplied and the enemy is not. It may be stated that the chances being that the Island army may have to receive battle defensively at first, passing of course at the fitting moment, *i.e.* the decisive moment, to a vigorous offensive, if the occasion presents, the army should have a very numerous artillery, (*say 6 pieces to every 1,000 men*) ; for this is, under any circumstances whatever, indicated by Napoleon, to whom the Principles XXXII. and XXXIII. belong, and which principles, particularly the latter, should be referred to and read. Victory appears certain for the Islanders. In the case of Victory for the Islanders, the Invaders must, it would appear, lay down their arms. But should Victory be for the Invaders (a most remote contingency), it is hardly better to them than defeat, for they must have experienced great loss, and have no reinforcements to

expect; how are they to replace the ammunition expended in the battle?—while the Island army retreats on its fortresses, to be reinforced and re-organized. Victory must ultimately, sooner or later, probably very soon indeed, be for the Islanders; and if the enemy have committed great and *reckless* damage, by burning towns, ships, &c., or any other outrages contrary to the usages of civilized warfare, and dictated by a disgraceful spirit of unreasoning vengeance for injuries with which the people of the Island generally had nothing whatever to do, and in which they had no voice whatever, and were for the most part opposed to them,—then a terrible but necessary example must be made.

In conclusion it has to be stated, that if the 12 fortresses round England and Wales were reduced to 6, then all that has been said as to the strategical advantages and properties of the system still holds, though in a minor degree.

CHAPTER VIII.

ON THE MEANS OF OBTAINING INFORMATION, AND OF DISCOVERING THE PROJECTS, PLANS, DISPOSITIONS, AND RESOURCES OF THE ENEMY.

THE vital and absolute importance of correct information on all matters and subjects in War is so manifest, that to pretend to insist on it for a moment is to become ridiculous, the subject speaking for itself. The Principle XXIV. speaks as to the importance of the earliest and correct information in war. Notwithstanding the manifest importance of correct information, it is perfectly astonishing to what an extent the simplest means of obtaining information have been neglected. It does seem wonderful how any man dares to accept the direction of the operations of an army, and at the same time wilfully neglect to employ the best means of obtaining information on which his plans, if they have any base at all, must be based, and without which the success of his movements, should they happen to succeed, must be perfectly fortuitous and accidental,—a contingency not to be relied on. Such folly can only be accounted for on the supposition that the commander capable of it is sufficiently wise to believe that he does not know how to utilize correct information when he has it, and therefore the trouble of getting it is thrown away.

Before stating the principal means of obtaining information, the Principle LIII. may be recopied here at full length. It belongs to Napoleon :—

PRINCIPLE.—“It is a fact that when one is not in a desert, but in a peopled country, if the general is not well instructed it is because he is ignorant of his trade.”—*Napoleon Bonaparte.*

That then which has to be done, viz. to obtain correct

information, is practicable and can be done. To enumerate the chief means of doing it:—

The principal means of obtaining information, and of discovering the projects, plans, dispositions, and resources of the enemy, are—

1. By spies located in the enemy's rear, on his communications, or in his country, and more or less intimately instructed of his movements, dispositions, resources and plans. Among such spies there will be men, and may be women, of all grades in life.

2. By seizing the Letter Bags. Napoleon says,—“Seize *above all* the letter bags,” and manifestly they afford a great source of information.

3. By seizing Notables, as—The civil magistrates and their subordinates, with their documents, letters, papers, &c. The ecclesiastical magistrates, Priests, Bishops, &c. with their documents. The richest and most influential private citizens, principal proprietors, with their documents, &c. The Heads of Convents, Universities, &c. And if there be any persons who are supposed to possess valuable information, let them be seized.

4. By sending out large detachments of *all arms*, which may amount to as many as 4,000, 5,000, or even 6,000 men, which detachments will, in obtaining the information they are sent to seek, *employ force to an extent which will be hereafter explained*.

5. By sending out small detachments composed of cavalry on ordinary ground, and of light infantry in mountains. These do not employ force, but artifice and cunning, in obtaining the information they seek.

6. By means of the prisoners of war, officers and men, deserters, and by seizing travellers.

7. By considering all the best, most probable, and feasible plans which the enemy can form in the circumstances in which all your information when most carefully (but at the same time rapidly) weighed leads to the belief that he is, which plans will in general be very restricted in number, say 6 at most.

8. Armed reconnaissances made by an entire Corps d'Armée, or by a whole army, having for object—

1. To determine the number of men in an enemy's detachment or column, or to see whether the whole of the enemy's army or his main army is in front or not, by compelling the body on which the reconnaissance is made to deploy and show itself.
2. To determine the configuration of the position occupied by the enemy, and the way in which the enemy occupies the position.
9. By all kinds of tricks, dodges, and artifices, not classifiable, according to the Maxim XV.

To discuss these 9 principal means of obtaining information seriatim :—

MEANS 1.—It is on this means that an army depends for information as to what is passing in the interior of the enemy's country, and also in general as to what is passing *behind the strategical and tactical fronts of the enemy*. All that can in general be hoped from the means 4 and 5, viz. from sending out respectively large detachments of all arms, who, to an extent to be explained, will use force, and small detachments of light cavalry or light infantry, according as the country is ordinary or mountainous, using cunning and artifice, is an account of the numbers and disposition of the enemy *on his strategical and tactical fronts*; *behind these cordons* it will not in general be possible by these means to obtain information. Notwithstanding this, one must endeavour to do so as far as possible by the means 5, and the officer in command of the small detachment having sent back the information he has obtained as exactly, definitely, and explicitly as he is able, as to what is passing on those cordons, may then, if his instructions permit, penetrate between the enemy's detachments, columns, &c., and try to obtain whatever further information he is able.

The leading information which is expected from a Spy may be collected under the following heads :—

1. The particular places or positions occupied by the enemy's forces in his own country, and on his communications. And on this point the Spy tells what he has himself seen, which is the principal part of the matter, and next what he has learned, stating his authority, as public

report, a traveller well known to him, in whose word confidence can be placed, &c. The exact date of every occurrence is, of course, very important, as dispositions constantly change.

2. The movements of the enemy's troops, whence a certain fraction of the enemy came, where it is directed. And on this point, also, the Spy tells what he has himself seen, which is equally the most trustworthy part of the despatch, and next what he has learned, stating his authority, &c. In this, too, the exact date of everything is, of course, most important.

3. What he has been able to learn of the plans of the enemy's general, stating the various sources of his information.

4. The resources of the enemy ; the places he has chosen for his magazines ; remarks on his fortresses or camps ; remarks on the peculiarities of the enemy's country, and of different salient points in it considered militarily.

5. Character and Antecedents of enemy's general.

6. Information of all kinds, not classifiable.

The subject of Spies as a means to obtain information cannot be quitted, without adverting to the danger. An able Spy who is faithful to his employer is a great advantage, and may be an immense advantage, but, on the other hand, an unfaithful Spy is exceedingly dangerous. Men are pushed on by their fears and pulled on by their hopes, and when a man's fears and hopes are thoroughly with you, he is going in the right direction under all the pressure of which his nature is capable. Hence the best precautions to ensure the fidelity of a Spy appear to be—To let him know that if he is unfaithful no means will be spared, and no industry grudged, towards hunting him down, by any means whatever, till he is dead. To pay largely every good piece of information which is afterwards found to be correct. To fix on a man whose sympathies you know to be strong, and with your cause. *Nothing binds men so strongly together as a similarity of religious and political views*, with the exception of the influence of fear and a community of interests, and it has been already recommended to have the two latter with you as far as possible in the case of a Spy, and the two former ought also to be had as much as

possible. If there be a political party in any part of the enemy's country, or in his whole country, violently opposed to the government, especially if it be well and secretly organized, and contains men of the true stamp, who fear nothing in reason in carrying out their ends, here is a system of Spies organized and made ready to hand. Money in this case, too, is economised, for you have only to show the Spies the triumph of their party, which is to them money ultimately. If the whole of the population of the enemy's country be more or less intensely disaffected, every one becomes more or less a Spy, and the enemy's army (which by the way can hardly fail to be secretly more or less disaffected, and consequently little inclined to fight and willing to be made prisoners *if they know that the prisoners are treated kindly* and good opportunities are supplied to them for carrying out their wish) is in reality in a far worse position than if it were, under ordinary circumstances, in an enemy's country. In such a case the army, though apparently in an enemy's country, will in reality be among friends, and will have correct and early information, while the enemy, apparently at home, will be among enemies, and have false information. Such a state of things ought naturally to prelude the entire destruction of the enemy's army.

It is clear that in such a case in order to select the Spies you have only to put yourself in communication with the chiefs of the party hostile to the government, and they will for their own sakes indicate the men of the greatest value, intelligence, and trustworthiness. The thing is done to your hands; all the information that can be needed will be supplied, and the enemy's army ought to be, in consequence, rapidly and utterly ruined.

It is clear that the more nearly the position and duties of a spy enable him to penetrate the secrets of the Commander-in-Chief and of the government, the greater his value, and the more largely he will expect to be paid.

MEANS 2.—With regard to this means, the words of Napoleon, "above all," stamp the importance of it. As the information, or at least a very great portion of it, was never intended to fall into the hands of the army seizing it, it is proportionably valuable as containing the real thoughts and opinions of the writers. The chief ways in which, or

rather the chief occasions on which, the letter-bags will be seized, are—

1. When the advanced guard of a column, marching rapidly in the execution of the plan of the campaign, enters a town unexpectedly, then the first thing to be done is to seize the letter bags.

2. While an army is maintaining its offensive positions, *which are to be as many and menacing as possible consistently with Principle I. which is both a principle of Strategy and Tactics*, until the plans of the enemy are sufficiently developed, the letters may suddenly be seized.

3. If there be an unprotected town which can be seized by sending out from one of the army's advanced positions a detachment of 4,000 or 5,000 men (according to the means 4 of obtaining information) such detachment may be sent to seize the letters when information is wanted.

In a magnificent despatch of Napoleon's to his brother Joseph, very ably translated in Sir W. Napier's "Peninsular War," are the following words:—

"When we know how to take measures of vigour and force, it is easy to get intelligence. All the posts, all the letters must be intercepted; the single motive of procuring intelligence will be sufficient to authorize a detachment of 4,000 or 5,000 men, who will go into a great town, take the letters from the post," &c.

On MEANS 3.—The notables will be all the civil magistrates, by whatever name they may be called, as Prefects, Sub-Prefects, Mayors and their Deputies, Sheriffs, Alcaldes, Aldermen, Postmasters, &c., the most influential private citizens and the largest proprietors, and certainly not less the religious functionaries, as Bishops, Priests, Heads of Convents, &c.; for it is a fact greatly to the credit of these latter, they are so extremely anxious to be fully prepared for the kingdom of heaven, that they lose few opportunities of meddling as much as possible with the affairs of the kingdom of this world, merely by way of obtaining experience, and for the purposes of preparation.

These notables when required will be seized either by *a large detachment reconnoitring by force*, by which name a detachment of the kind spoken of in the Means 4 will be

spoken of, sent into the town or district where they reside, or by a *small detachment reconnoitring by artifice*, by which name the detachments spoken of in the Means 5 will be spoken of, or by the advanced guard of a column on march on its entering a town; or when military possession is held of a portion of the enemy's country, sudden seizures of notables may take place from time to time.

When a notable refuses to speak on subjects on which there is good reason to believe he is well informed, from his documents seized at the same time as himself, and which have been looked over, he is put under arrest in solitary confinement, and examined once or twice a-day till he does speak. Notables when seized are to be made to write letters to their friends and relations, (of the excellence of whose style for the purpose you are of course a self-constituted critic,) to send messages and obtain news. In cases of contumacy, either in a non-willingness to write in a good style or in sending out messengers, the regimen of solitary confinement, with moderate diet, and one or two examinations a-day, must be persevered in till it has produced its effect. It is clear that the notable must be rendered uncomfortable by the nature of his confinement and diet, and absence of material comforts, particularly those to which he is most attached, in proportion as he is obstinate. The maxim of conduct in treating a notable is, *suaviter in modo, fortiter in re*. If a notable be compliant he need not be placed in solitary confinement, further than the necessity of his not being allowed to communicate with any one till his letters and messages are answered requires, and he should be treated as respectfully and kindly as possible. As soon as an obstinate notable becomes compliant he must be treated kindly, and a cruel necessity and the recognised usages of war presented him as an apology, by way of soothing any irritation of feeling which may exist: actual necessity compelled, and no choice remained, however repugnant it might be to the feelings, for it is impossible to neglect means which the enemy is on his part certain to use, and by which he will certainly profit. It is a wise maxim, under all circumstances, that the good will and affection of every man must

be sought and gained, and his ill-will conciliated and disarmed as far as possible, consistently with the course of conduct which it is on due deliberation firmly determined to pursue towards him. How many men have by roughness or exclusiveness sent away or neglected the very persons who were the best qualified to serve them in their objects!

On MEANS 4.—These large detachments of all arms, which may amount to 5,000 or 6,000 men, have been said to reconnoitre “to an extent by force;” it remains to explain this extent. In the first place, when one of these detachments is sent out it is made sufficiently numerous, that, according to the information received by, and the conviction of the general sending it, it is capable of overthrowing every hostile body so placed as to compromise its safety while executing its reconnaissance. This fact at once follows from Principle III., which is equally a principle of Strategy and Tactics, for it would be to go in exact opposition to this principle to send a smaller body to obtain information, or do anything else which involves a necessary collision with a larger.

Hence, the detachment is never to compromise itself with a more powerful body, and if this should be necessary to the attainment of the required information the reconnaissance has failed.

Hence it is clear that if a larger body bar the road the reconnaissance has failed.

If the detachment on its march discover a body on either flank, which it is dangerous to leave in its rear unattacked, and which it is necessary to the safety of the detachment to beat back before proceeding, and which however it is able to beat pretty easily; then, if the time required for the action with, and pursuit of, such body be not so long as to cause the object to be obtained by the reconnaissance to be lost, the body is to be beaten and broken; if, on the other hand, by the loss of time the object of the reconnaissance is lost, the reconnaissance has failed, and the detachment has only to retire on the main body.

If on the road the detachment falls in with a body of the enemy smaller than itself, and which it can readily over-

throw, so much the better; fortune has sent it an opportunity of applying Principle III.; the detachment overthrows it, makes prisoners, takes or spoils the cannon, and proceeds on its mission.

If the detachment discover on either flank a smaller body, which it may pass by unnoticed with impunity, then, according as the instructions of the officer commanding the detachment do or do not indicate the time required for beating this smaller body to be of importance in its effect on the object of the reconnaissance, the body is pursued and attacked, or not.

Every person who is met with, or come up with, on the road, and who wishes to go faster than the column, is arrested.

The detachment must never neglect the precaution of having an advanced guard, éclaireurs and flankers, according to the rules for the march of every column, great or small; and this must be observed however great the necessity for the column arriving quickly at its place of destination. When the detachment marches by night the advanced guard, éclaireurs (explorers) and flankers are withdrawn entirely, or at least are brought so near to the main body that they can either see or hear it.

And generally, the detachment, being a column, observes all the rules for the conduct of the march of a column.

On the duties of the commander of the detachment:—The commander will make himself acquainted with the object of the reconnaissance, and the circumstances under which it is to be made, and to this end ask all questions which may appear to him necessary after receiving his instructions. Before starting, he will assure himself of the good state of his detachment, as to arms and ammunition. It is perhaps needless to say he will furnish himself with the best map he can get, a good telescope, and materials for sketching and writing. He will take two or three of the inhabitants of the country, who will be selected by their knowledge of the road and country, to serve him as guides; to these he will address the necessary questions, which will have reference to the names and size of the villages, the state of the roads, the character of the water-courses, nature

of the ground, the places to which the side roads lead, &c. He will take with him an interpreter, if he be unable to speak the language. He will, when he passes through a village, stop some little time to ask questions on the position of the enemy, and if he suspects deceit will take hostages, whom he will not release till he finds that the people have not tried to deceive him. He will study the country through which he passes, and determine the points at which he can make a stand if necessary, should he be obliged to retreat before a larger body of the enemy; will frequently look behind him, that he may learn the country, and be able to recognise it in its different aspects; and will verify his map, and correct it when found to be erroneous. When the detachment halts, he determines the place of halt from the conditions: 1. That it shall conceal the detachment from the view of the surrounding country. 2. That it shall be so near a good position, that the position can be immediately occupied (in accordance with Principle XXXVII.) in case of surprise, because by that principle the choice of an encampment or a halt is none other than the choice of a position of battle.

When he halts his detachment near a village, he halts it on the side towards the enemy, that it may have the advantages conferred by the possession of the village in case of an attack, that the enemy may not seize the village suddenly, and that all communication between the village and the enemy may be as far as possible interdicted.

On MEANS 5.—The subjects on which information is sought by means of these small detachments are very numerous. For example:—

To discover the number of a column known to have passed through a certain town by a certain road.

To see if a defile is occupied.

To see whether a bridge, over which it is wished to pass, has been broken.

To observe a point as far as possible in advance on a certain road, ascertain the number and watch the movements of an enemy's column which may present itself by that road, and forward the information with all despatch.

The characteristics of the movements and operation of

these detachments are Vigilance, Rapidity, Secrecy, Cunning, and Artifice. The following is a sketch of the conduct which such detachments must pursue.

It is manifest that the commander of the detachment, having great need of good guides to lead him through the intricacies which it may be necessary for him to thread, must leave no means untried to get the best guides possible. Each of the guides is watched most closely by two soldiers appointed for that purpose, and he is by no means to be permitted to escape. The guides are not allowed to speak to one another, lest they should concoct some rascality between them. So long as there are sufficient men, the fewer men there are in one of these detachments the better, because the enemy is less likely to remark their manœuvres, the vigilance and observation of the enemy is more likely to be eluded, and a retreat can be made with greater rapidity. Secrecy being a characteristic of its manœuvres, the little detachment travels as much as possible by night, moves along ravines, follows hollow roads, and makes great rounds when necessary to the avoidance of the enemy. The detachment is so small that it cannot have an advanced guard; it sends forward, however, a group of éclaireurs, because it is certain that if the éclaireurs are discovered the whole detachment marching together would be, and it is better the éclaireurs alone fall into mischief than the whole troop. The éclaireurs send forward two men. Two or three flankers move on each side of the little column, in accordance with the rules for the march of all columns. It is by advanced guards, and the advanced guards of advanced guards, and the éclaireurs which precede them, and the flankers and the rear-guards, that columns in modern warfare avoid the ambuscades and insidiæ so common in ancient times. When the éclaireurs announce an enemy, the detachment endeavours to hide itself in a wood, a hollow behind a hedge, or by means of some accident of ground. If the detachment cannot succeed in hiding itself it fights, if the enemy be not too numerous, and if the enemy be too numerous saves itself by a rapid flight. If the detachment succeeds in hiding itself, the commander endeavours to see all he can of the

hostile body, and if it be a considerable body sends all the information he has been able to obtain, as to its number and composition, &c., to the main body. It is essentially necessary that the detachment be composed of soldiers on whom reliance can be placed, and of excellent officers; in fact, it should be composed of tried and known men. Two or more of the officers ought to speak the language of the country, and the more officers and soldiers the better. When there is fear of discovery, the leading roads are forsaken for the bye and side-roads, or for cross-country. Villages and houses are avoided as much as possible, especially on approaching the destination, for obvious reasons. If it be necessary to pass through or enter a village, the opportunity of getting information is not to be neglected; recourse is to be had to the rural notabilities, and false reports as to the destination of the detachment must be cleverly spread to put the enemy on a wrong scent. Provisions may be bought from the villagers, but not taken without paying for; the weaker a man is, the more he stands in need of the good-will of his neighbours. The little detachment should pay well, and promise equally liberal patronage on its return, and the villagers will be to a certain extent interested in its safety. The detachment scarcely ever returns by the way it went, to avoid ambuscades which might be set for it. It is best, when possible, that the detachment should start provided with all the provisions, &c., that it will require; but when this is not possible the sooner they are laid in after starting the better, because they are found so much the further from the enemy, whose ignorance will be the greater. No unnecessary noise is of course allowed, nor is smoking permitted by night.

It has been said that secrecy is a characteristic of the manœuvres of these little detachments; and so it is of *every manœuvre of an army on the field of battle, or elsewhere*, except those manœuvres which are made expressly for the purpose of deceiving the enemy. This tempts a brief animadversion here to a subject far too universally neglected, with what most certainly appears the utmost contempt for common sense. If secrecy be an object, why

dress armies in the colours most easily distinguishable ? It cannot be because it is wished that the enemy's reconnaissances be facilitated, and that, on the field of battle, he may be better able to ascertain the number, learn the dispositions, and see the movements of the army ; and that the fire of his artillery and musketry, being directed on more distinct and definite objects, may be more deadly.

Two questions, then, have to be asked. Is it a principle that an army should be dressed in those colours which best conceal it from the view of an enemy ? or, on the other head, Is it a principle that an army should be dressed in those colours which most expose it to the view of an enemy, or in order that it may please the eye, look pretty, or for any other weighty reason ? If the first of the two questions be answered in the affirmative for the whole army, or for a great part of an army, then it becomes a question, which is the colour most conducive to concealment. Whenever the analogy of nature, or the instructions of nature, the infinitely wonderful and mysterious structure of the Infinite Artificer, can be consulted on any question, it seems to be wisdom to consult such analogy and instructions. What, then, are the colours of those animals and birds whose nature most requires concealment, either for their protection from others, or that concealment may enable them to gain their sustenance ? The matter is, however, perfectly capable of being decided by experiment. To be brief, the colours which most conduce to concealment are manifestly indefinite colours, and are not the marked and prominent colours of the spectrum. They are clearly neither red, blue, yellow, green, black, crimson, white, nor purple ; yet these are the colours in which soldiers are dressed. If this assertion be objected to with respect to black, it is answered, that invisible green is equally visible with black.

The best colour for concealment appears to be a mixture of dull yellow and dull brown, approaching the colour of a lark, or a hare's back, a partridge, or a woodcock. The degrees in which the dull yellow and dull brown enter into the composition is a matter of experiment. The exact proportions in which these two colours ought to enter in

order to make the concealment greatest, manifestly depends on the general colour of the soil of the country in which the army is called to operate; but any mixture of them appears good for all soils. Is it to enter too curiously into the question to say that, *cæteris paribus*, that of two fields of battle should be chosen to whose general colour the colour of the uniform of the soldiers is best adapted for their concealment?

On MEANS 6.—As a first rule in employing this means, prisoners of war, deserters, and travellers, are to be questioned apart one from another, in order to discover, by comparing their statements, whether they are attempting to deceive by false information.

Though it will be sometimes difficult to find a direct contradiction between the statements of two of such persons, or between the statements of two of such persons separately interrogated, a man who possesses natural tact, and has had some experience, will almost always be able to decide, by various indications, whether the witness is telling what he believes to be the truth. In examining prisoners, whether officers or privates, it is not right to expect from them what it is unreasonable to suppose they can know, and this must be taken into consideration; for example, a private infantry soldier cannot be expected to know anything beyond the movements of his battalion.

On MEANS 7.—*That is, on the consideration of all the best and most probable plans which the enemy can form in the circumstances in which all the knowledge of him, and information received about him, when most carefully weighed, leads to the belief he is placed, as a means to acquire information.*

In order, then, to consider and discuss this means of obtaining information, it is to be supposed, as data, that the enemy is known to be occupying, or that all the information which can be obtained leads, when most carefully weighed, to the belief that the enemy is occupying a certain strategical position, at a certain time, with certain numbers and resources, and under certain circumstances—How then, from this data, is information as to the enemy's future projects and plans to be obtained? As a matter

of course, what are the good or probable courses open to the enemy in the position and circumstances in which he is believed to be,—in fact, all the plans which oneself would think of undertaking, and pass in review as good or feasible, in order to decide between them, supposing oneself to be in the enemy's place?

On the authority of Jomini, the number of the plans which are open to an army, under any circumstances, is very limited (say 6 at most), hence there cannot be many plans which the enemy can adopt, and consequently few for one to pass in review in order to divine which is the enemy's plan. To give an illustration of this, the following translated quotation from Jomini's "Précis de l'Art de la Guerre" will be given:—

"In 1806, when it was as yet doubtful in France whether a war would take place with Prussia or not, I made a note on the chances of a war, and the operations which, in the case of a war, would take place. I laid down the 3 following hypotheses as to the conduct the Prussians would pursue:—

"1. The Prussians will await Napoleon behind the Elbe, and operate defensively between the Elbe and the Oder, to gain time for the cooperation of Russia and Austria.

"2. Or they will advance to the Saale, supporting their left on the frontier of Bohemia, and defending the outlets of the mountains of Franconia.

"3. Or, awaiting the French by the great road of Mayence, *they will advance imprudently to Erfurt.*

"I do not think there were any other possible hypotheses to be made, unless one supposed the Prussians sufficiently ignorant to divide their forces, already inferior in number, in the two directions of Wesel and Mayence—a useless fault, since by the former of these two routes no single French soldier had appeared since the Seven Years' War.

"Supposing, then, they advanced on Erfurt, by directing themselves on *Hof* and *Gera*, they were cut from their line of retreat and thrown back on the Lower Elbe and North Sea. Did they occupy the line of the Saale, by attacking their left by *Hof* and *Gera* they would be partially over.

whelmed, and might be intercepted at Berlin by the Leipzig road. Did they remain behind the Elbe it was equally by directing themselves on *Hof* and *Gera* that they were to be found. What was the importance, then, of knowing the details of their movements, since one's course was in all cases the same. So, well convinced of these truths, I did not hesitate to announce, a month before the war, that that would be what Napoleon would undertake, and that if the Prussians passed the Saale, it would be at Jena and Naumbourg that the battle would be fought."

It is not generally possible for the most able spy to penetrate the secrets of the enemy's general, and discover his plans, nor will any of the other 8 means of obtaining information effect this. All that can be learned by any of the other 8 means, is where a body of the enemy of a certain number was at a certain time, the direction from which it came, and the direction in which it was going; in fact, the dispositions, strategical and tactical, of the enemy as they exist at a certain time; but from these the enemy's project and plan does not appear, but still remains to be found out. Hence the great value of considering what are the good and feasible plans for the enemy to undertake in the position and circumstances in which he is; in fact, all the plans which oneself ought to think of undertaking as good and feasible as a means of obtaining information. But, in order to determine what these good and feasible plans are, it is necessary to know *how* to determine. Hence the great value of a knowledge of the correct principles and maxims of war, and a good knowledge of military history, for *it is only by means of these that it is possible to determine and know* what are the good and feasible plans to pursue in any position and circumstances. And it is clear of how great assistance well-made hypotheses containing the several good and feasible plans an enemy can undertake in a given position, under given circumstances, are, not only directly towards ascertaining what his real plan is, by finding out and indicating several definite plans, one of which the enemy must, to a very high probability, indeed take, and of which the information, as it arrives, has only to indicate the actual one the

enemy is pursuing, but pieces of information, and information generally, which, without these hypotheses, based on and constructed from a knowledge of the Principles and Maxims of Strategy and Tactics, and an acquaintance with military history, which embodies the experience and instructions of the Past, would be not comprehended and understood, or misunderstood, and therefore unprofitable, now become explained and comprehended in their proper bearings, acquire peculiar significance, and indicate which is the enemy's real plan. Hence it follows, that not only are the Principles and Maxims of War, and a Knowledge of Military History, of the greatest use in forming able plans, based on the best knowledge which can be acquired of the position and circumstances of the two armies, but also as a most important means of verifying, interpreting, comprehending, and obtaining information, and consequently, that best knowledge of the positions and dispositions of the two armies.

To make a summary of this Means 7, it is—

From the enemy's position and circumstances, according to all that can be learned, well weighed, to determine, by means of the Principles and Maxims of Strategy and Tactics, and a Knowledge of Military History applied to the enemy's position and circumstances, *and the configuration of the theatre of war*, what are the good or probable plans for the enemy to pursue. Having determined these plans, view every new piece of information which may be received by any of the other 8 means, or by any other means not categorized here, (all of which should be kept rapidly and incessantly at work,) as it comes to hand in conjunction with them; comprehend, understand, verify, and interpret it by means of them and by a knowledge of the Principles and Maxims of War and Military History, and determine therefrom, if possible, between the hypothetical plans which is the enemy's real one, or see at least if the number of hypothetical plans is diminished, the new piece of information just come to hand having rendered one or more of them now unwarrantable.

It may be here stated, it is hoped à propos, that a plan for a campaign ought at any time during the campaign to

contain within itself, in addition to an offensive part, the means of defeating all the good or probable plans which at that time remain open to the enemy. Thus, if 2 good plans remain open to the enemy at any time during a campaign, the plan of the campaign should contain within itself, as its defensive part, the means of defeating both these, and in addition a purely offensive part; but when new information arrives, and the enemy's plan is so far developed as not to be mistaken, then the plan of the campaign must contain the means of defeating the enemy's plan by striking him offensively so as to parry his blow.

The value of a Knowledge of the Principles and Maxims of War and of Military History, as a means to obtain information, understand it, and deduce therefrom, may be illustrated by the game of Chess. An enemy's move which may to one player indicate a beautiful plan of attack, and the necessary defensive and offensive operations, will to another ignorant of the art have no significance whatever. The following translation of a despatch of Napoleon's to his brother Joseph, the King of Spain, copied here from Sir W. Napier's "History of the War in the Peninsula," is of so striking a character that its value seems to require its insertion in a treatise on war. It is placed here because the latter part of it refers to the subject of reconnaissances, and as well, the writer of this treatise, in placing it here, offers it to the kind consideration of the reader as a test to the extent it goes of the principles, maxims, and views of war advanced by the writer in his "Elementary Treatise on Strategy," and this "Elementary Treatise on Tactics." "This despatch of Napoleon's," says Sir W. Napier, "evinces his absolute mastery of the art of war." As the translation of the despatch in the "History of the Peninsular War" is accompanied with a valuable observation, it is copied verbatim from the text of that most valuable work.

"'It was too late,' he said, 'to discuss the question, whether Madrid should have been retained or abandoned; idle to consider if a position covering the siege of Zaragoza might not have been formed; useless to examine if the line of the Duero was not better than that of the Ebro for the

French army. The line of the Ebro was taken and must be kept; to advance from that river without a fixed object would create indecision; this would bring the troops back again, and produce an injurious moral effect. But why abandon Tudela? why relinquish Burgos? Those towns were of note and reputation. They gave moral influence, and moral force constituted two-thirds of the strength of armies. Tudela and Burgos had also a relative importance; the first, possessing a stone bridge, was on the communication of Pampluna and Madrid, commanded the canal of Zaragoza, was the capital of a province. When the army resumed offensive operations, the first enterprise would be the siege of Zaragoza; from that town to Tudela the land-carriage was three days, the water carriage was only fourteen hours; wherefore to have the besieging artillery and stores at Tudela, was the same as to have them at Zaragoza. If the Spaniards got possession of the former, all Navarre would be in a state of insurrection and Pampluna exposed. Tudela then was of vast importance, Milagro of none; it was an obscure place, without a bridge, commanded no communication, was without interest, defended nothing! led to nothing! A river,' said this great commander, 'as large as the Vistula and as rapid as the Danube at its mouth, is nothing unless there are good points of passage and a head quick to take the offensive; the Ebro is less than nothing, a mere line; Milagro is useless,—the enemy might neglect it, be at Estella, and gain Tolosa before any preparation could be made to receive him: he might come from Soria, from Logrono, or from Zaragoza.

" 'Burgos is the capital of a province, the centre of many communications, a town of great fame, and of relative value to the French army; to occupy it in force and offensively, would threaten Palencia, Valladolid, Aranda, and even Madrid. It is necessary to have made war a long time to conceive this; it is necessary to have made a number of offensive enterprises, to know how much the smallest event or even indication, encourages, or discourages, and decides the adoption of one enterprise instead of another.'—'In short, if the enemy occupies Burgos,

Logroño, and Tudela, the French army will be in a pitiful position. It is not known if he has left Madrid; it is not known what has become of the Gallician army, there is reason to suspect it may have been directed upon Portugal; in such a state, to take up, instead of a bold menacing and honourable position like Burgos, a confined shameful one like Trevino, is to say to the enemy, you have nothing to fear, go elsewhere, we have made our dispositions to go further back; or we have chosen our ground to fight, come there without fear of being disturbed on your march. But what will the French general do if the enemy marches the next day upon Burgos? Will he let the citadel of that town be taken by six thousand insurgents? if the French have left a garrison in the castle, how can four or five hundred men retire in such a vast plain? From that time all is gone; if the enemy masters the citadel, it cannot be retaken. If, on the contrary, we should guard the citadel, we must give battle, because it cannot hold out more than three days; and if we are to fight, why should Bessières abandon the ground where we wish to fight.

"These dispositions appear badly considered: when the enemy shall march, our troops will meet with such an insult as will demoralize them, if there are only insurgents or light troops advancing against them. If fifteen thousand insurgents enter Burgos, retrench themselves in the town and occupy the castle, it will be necessary to calculate a march of several days to enable us to post ourselves there and retake the town, which cannot be done without some inconvenience; if, during this time, the real attack is upon Logroño or Pampeluna, we shall have made countermarches without use, and fatigued the army. If we hold it with cavalry only, is it not to say, we do not intend stopping, and invite the enemy to come there? It is the first time an army has quitted all its offensive positions to take up a bad defensive line, and affect to choose its field of battle, when the thousand and one combinations which might take place and the distance of the enemy did not leave a probability of being able to foresee if the battle would take place at Tudela, between Tudela and Pampeluna, between Soria and the Ebro, or between Burgos and Miranda del Ebro.'

"Then followed an observation which may be studied with advantage by those authors who, unacquaintd with the simplest rudiments of military science, and in profound ignorance of numbers, positions and resources, point out the accurate mode of executing the most delicate and difficult operations of war. The rebuke of Turenne, who frankly acknowledged to Louvois that he could pass the Rhine at a particular spot, if the latter's finger were a bridge, has been lost upon such men, and the more recent opinion of Napoleon may be disregarded. 'But it is not permitted,' says that consummate general, 'it is not permitted, at the distance of three hundred leagues, and without even a state of the situation of the army, to direct what should be done!'

"Having thus avoided the charge of presumption, the emperor recommended certain dispositions for defending the Ebro, and giving a short analysis of Dupont's campaigns, declared that 'twenty-five thousand French, in a good position, would suffice to beat all the Spanish armies united.'—'Let Tudela,' he said, 'be retrenched if possible; at all events occupied in force, and offensively towards Zaragoza. Let the general commanding there collect provisions on all sides, secure the boats, with a view to future operations when the reinforcements shall arrive, and maintain his communication with Logroño by the right bank if he can, but certainly by the left; let his corps be considered one of observation. If a body of insurgents only approach, he may fight them, or keep them constantly on the defensive by his movements against their line or against Zaragoza; if regular troops attack him and he is forced across the Ebro, let him dispute the ground to Pampeluna until the general-in-chief has made his dispositions for the main body: in this manner no prompt movement upon Estella and Tolosa can take place, and the corps of observation will have amply fulfilled its task.

"Let Marshal Bessières, with his whole corps reinforced by the light cavalry of the army, encamp in the wood near Burgos; let the citadel be well occupied, the hospital, the dépôts, and all encumbrances sent over the Ebro; let him keep in a condition to act, be under arms

every day at three o'clock in the morning, and remain until the return of his patroles; he should also send parties to a great extent, as far as two days' march. Let the corps of the centre be placed at Miranda del Ebro and Briviesca, and the encumbrances likewise sent across the Ebro behind Vitoria; this corps should be under arms every morning, and send patroles by the road of Soria, and wherever the enemy may be expected: it must not be lost sight of, that these two corps, being to be united, should be connected as little as possible with Logroño, and consider the left wing as a corps detached, having a line of operations upon Pampeluna and a separate part to act: Tudela is preserved as a post contiguous to the line. Be well on the defensive, in short, make war! that is to say, get information from the alcaldes, the curates, the posts, the chiefs of convents, and the principal proprietors, you will then be perfectly informed. The patroles should always be directed upon the side of Soria, and of Burgos, upon Palencia, and upon the side of Aranda; they could thus form three posts of interception, and send three reports of men arrested, who should however be treated well and dismissed after they had given the information desired of them. Let the enemy then come: we can unite all our forces, hide our marches from him, and fall upon his flank at the moment he is meditating an offensive movement.'

"With regard to the minor details, the emperor thus wrote:—

"Soria is only two short marches from the position of the army, and it has constantly acted against us; an expedition sent there to disarm it, to take thirty of the principal people as hostages, and to obtain provisions would have a good effect. It would be useful to occupy Santander; it will be of advantage to move by the direct road of Bilbao to Santander. It will be necessary to occupy and disarm Biscay and Navarre, and every Spaniard taken in arms there should be shot. The manufactories of arms at Placencia should be watched, to hinder them from working for the rebels. The port of Pancorbo should be armed and fortified with great activity; ovens and magazines of provisions and ammunition should be placed there, because,

situated nearly half way between Madrid and Bayonne, an intermediate post for the army, and a point of support for troops operating towards Gallicia. The interest of the enemy is to mask his forces; by hiding the true point of attack, he operates so, that the blow he means to strike is never indicated in a positive way, and the opposing general can only guess it by a well-matured knowledge of his own position, and of the mode in which he makes his offensive system act to protect his defensive system.

“ ‘ We have no accounts of what the enemy is about, it is said no news can be obtained, as if this case was extraordinary in an army, as if spies were common; they must do in Spain as they do in other places. Send parties out. Let them carry off, sometimes the priest, sometimes the alcalde, the chief of a convent, the master of the post or his deputy, and above all the letters. Put these persons under arrest until they speak; question them twice each day, or keep them as hostages; charge them to send foot messengers and to get news. When we know how to take measures of vigour and force it is easy to get intelligence. All the posts, all the letters must be intercepted; the single motive of procuring intelligence will be sufficient to authorize a detachment of four or five thousand men, who will go into a great town, take the letters from the post, seize the richest citizens, their letters, papers, gazettes, &c. It is beyond doubt, that even in the French lines, the inhabitants are all informed of what passes, of course out of that line they know more; what then should prevent you from seizing the principal men? Let them be sent back again without being ill-treated. It is a fact, that when we are not in a desert but in a peopled country, if the general is not well-instructed it is because he is ignorant of his trade. The services which the inhabitants render to an enemy’s general are never given from affection, nor even to get money; the truest method to obtain them is by safeguards and protections to preserve their lives, their goods, their towns, or their monasteries ! ’ ”

EXPLANATION OF THE PLANS.

IN all the Plans, the base plane of the piece or area of ground represented is left White.

All Slopes are painted light Brown, or, more properly speaking, light Burnt-Sienna. All Table-Lands (*i. e.* all those portions of ground which may be approximately considered as being horizontal, and situated out of the base plane, around the tops of the hills or mountains, or half pr any portion of the way up them) are painted light Blue.

Woods are painted dark Green.

Lakes, Ponds, and Rivers light Green.

Towns, Villages, Houses, Masonry, dark Brown, or, more properly speaking, dark Burnt-Sienna.

Roads are indicated by one or two black lines, according to their magnitude, and are not painted at all.

When the armies represented in either of the Plans are each composed of men of a single nation, or when one of them or both are composed of different nations, but it is not found necessary or expedient to indicate this by giving different colours to the different nations of which either army is composed, then—

For the one army :—

1st Position, will be painted light Yellow.

2d Position, dark Yellow.

3d Position, Orange.

For the other army :—

1st Position, light Red.

2d Position, dark Red.

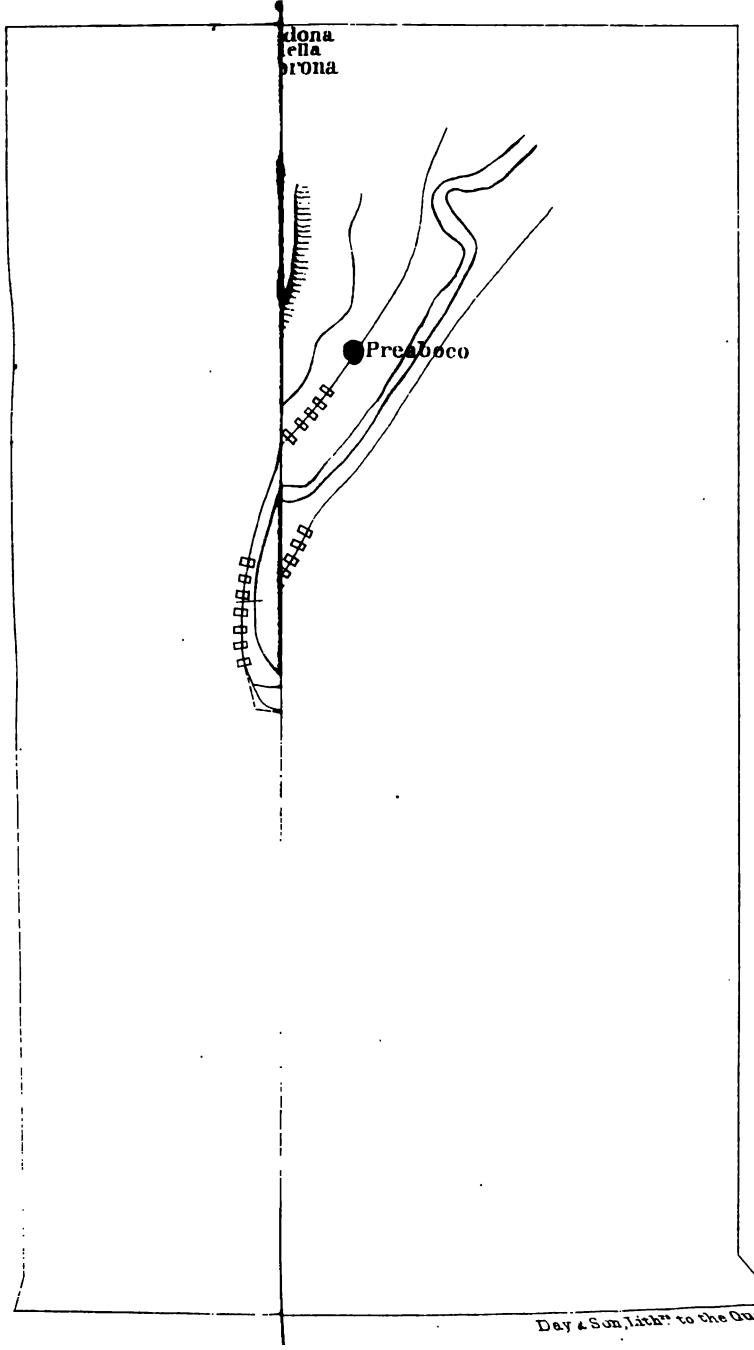
3d Position, dark Lake.

The Tactical Lines by which the different bodies of either army move from one position to another are indicated by dotted lines.

When a diagonal is drawn across any one of the little parallelograms representing corps, that corps is of cavalry.

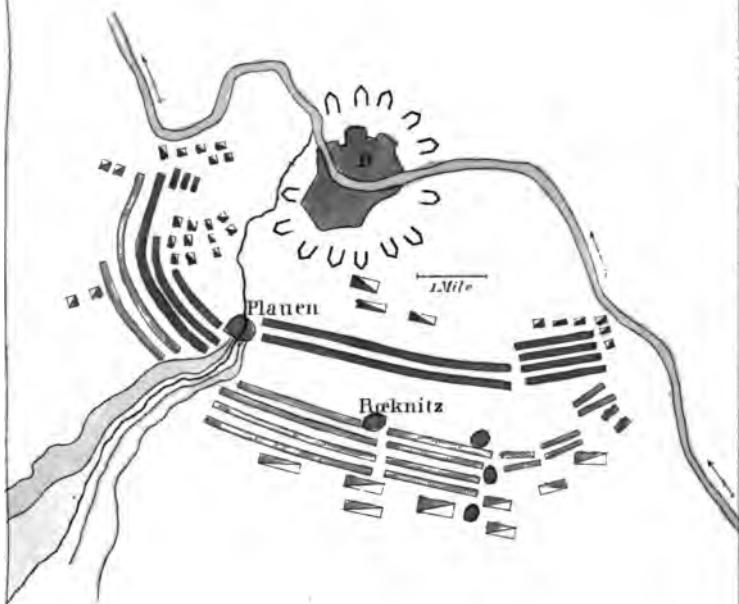
The reasons for choosing the way of representing the configuration of a piece or area of ground adopted, viz. leaving the base plane of the piece of ground white, painting all slopes light brown, or light burnt-sienna, and all table-lands, *i. e.* all pieces of ground, whether at the tops of hills or mountains, or any part of the distance up them, which may approximately be considered as horizontal planes, light blue, are—

1. The facility and rapidity with which an area of ground is in this way represented.
2. The distinctness with which the configuration of the area of ground represented stands out to the eye.
3. The slopes being merely painted, and not covered with a multiplicity of black lines (which are no small trouble in making), numbers can be written in, indicating the rapidity of the slopes and the height of the hills to which they belong; as well, remarks can be written in when required.

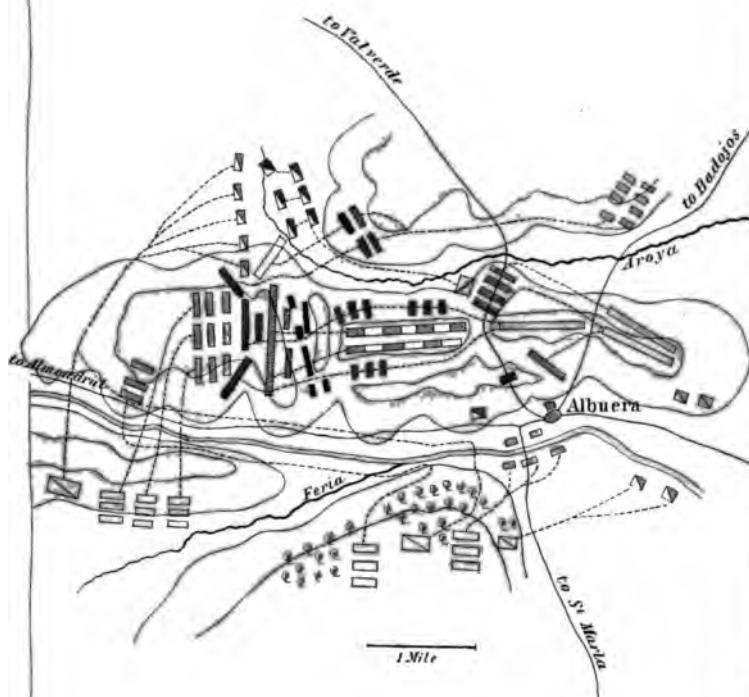




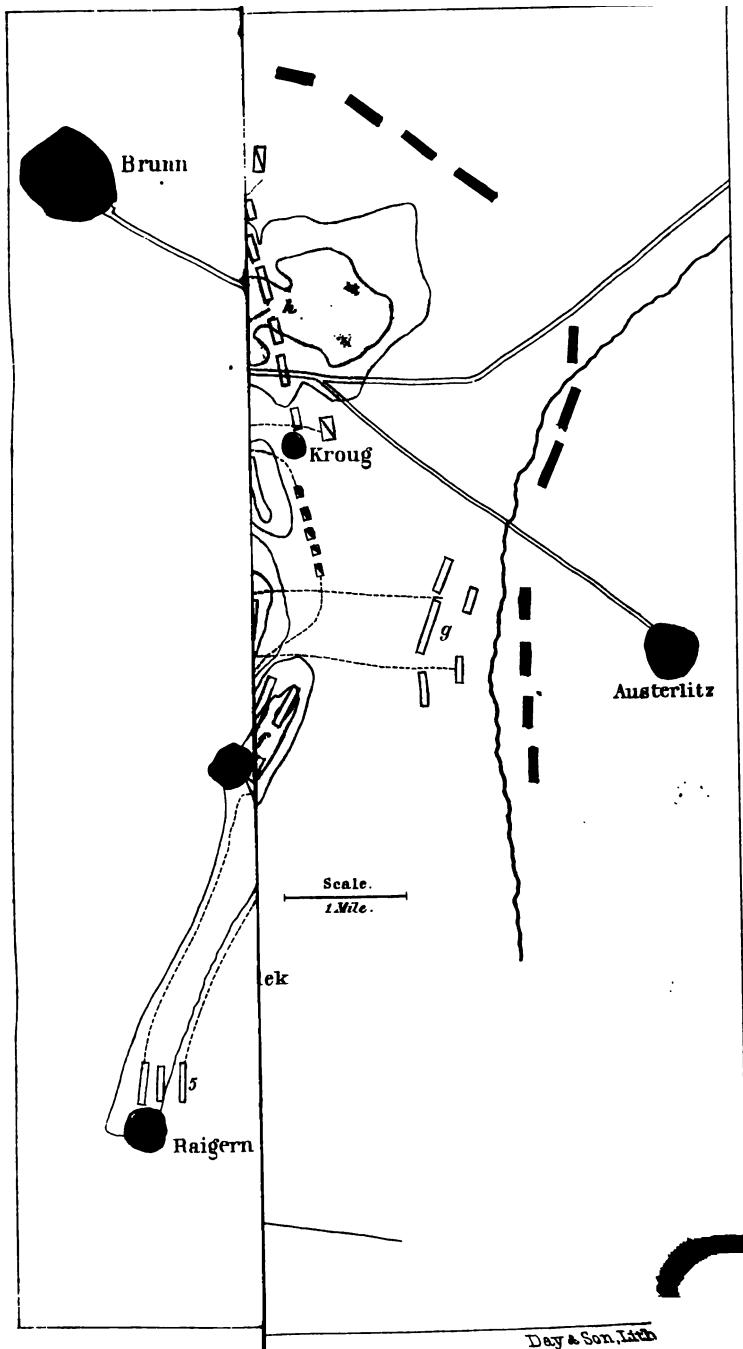
PLAN 2.



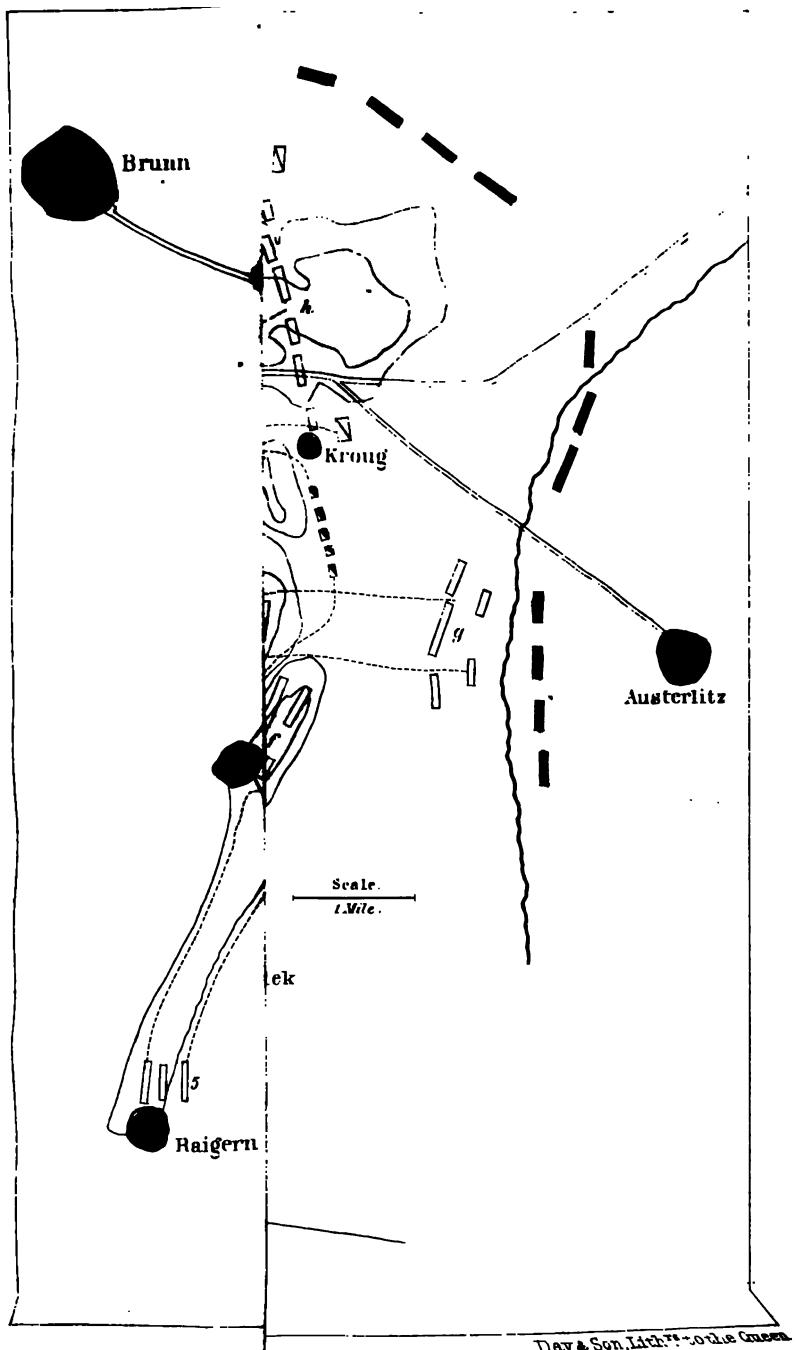
PLAN 5.













PLAN 5.



PLAN 6.

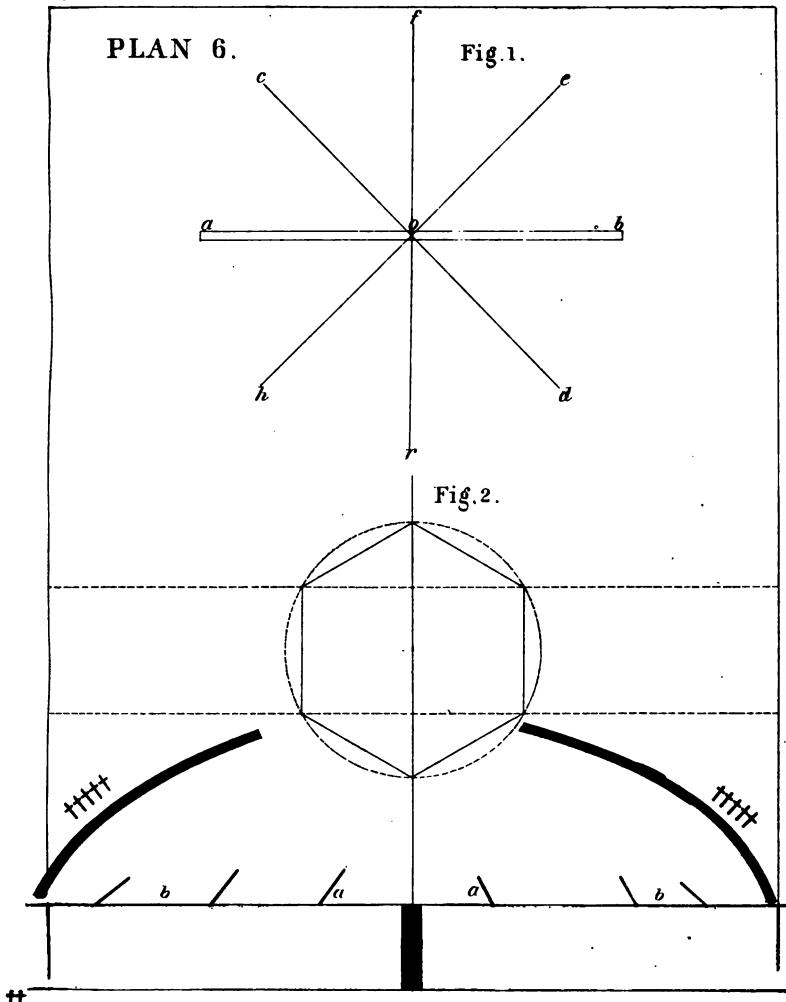


Fig. 2.

Fig. 3.

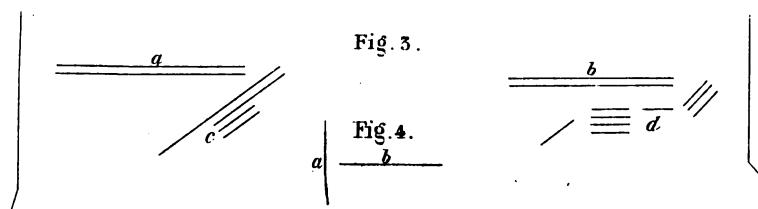


Fig. 4.



